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THE
NEW ENGLAND FARMER ;

DEVOTED TO
AGRICULTURE, HORTICULTURE,
AND THEIR KINDRED
ARTS AND SCIENCES.

ILLUSTRATED WITH ENGRAVINGS OF COUNTRY RESIDENCES, FARM BUILDINGS, CHOICE
FRUITS, ANIMALS, IMPLEMENTS, &c.

EDITED BY
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GENERAL INDEX.

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ILLUSTRATIONS.

B	BUILDINGS.	FRUIT, Plum, the Penobscot . . . 77	I	INITIAL Letter A 61, 113, 153, 173
	Barn, Mr. Pratt's 127	MISCELLANEOUS.		269, 497, 575
	House, a Country Farm . . . 36	Butterfly, Transformations . . . 574	B	589, 601, 650
	Cottage 52	Canker Worms 506	D	641
	Double or Single 82, 85	Corn, Joint or Branching . . . 44	F	45, 157, 669
FARM ANIMALS.		Cider Mill, Buckeye 578	G	561
	Ayrshire Cow 338	Emigrants on the Amoor . . . 149	I	67
	Durham Heifer, — Mattie . . . 388	Geese 37	J	13, 391
	Newell 388	Gilyak Village 150	L	89, 292
	Hereford Bull 124	Hawk-moth, Five-spotted . . . 574	M	109
	Horse, the Morgan 237	H-t-bed 164	N	593
FRUITS AND PLANTS.		Irrigation 397	O	17, 196, 305, 545
	Acacia, the Three-thorned . . . 568	Pough, a Paring 232	S	28, 221, 241, 253
	Apple, Sweet Bough 380	Poultry House, Plan and . . . 512		329, 385
	Egg Plant 213	Perspective 512	T	125, 537
	Honey Locust 568	Wheel, Archibald's Spoke . . . 276	U	295
	Pear, Buere Chargeau 524		V	53, 209, 265, 350
	Golden Buere of Bilbao 260			605
	Trees, Dwarf 657		W	365

INDEX OF SUBJECTS.

- A** BUTILON 121
 Agriculture and Health . . . 184
 Board of in N. H. . . . 537, 656
 and Old Age 321
 Department of 535
 Agricultural Colleges, Conven-
 tion of 592
 in Ohio 571
 in Vermont 50
 Education, Henry Clay on . . 212
 Fairs 257
 Matter, Extra Page of . . . 377, 515
 Paper, Essentials of a First
 Class 141
 Societies 257
 Farmers in 175
 Objects of 219
 Officers . 127, 136, 148, 160, 169
 Almond, Dwarf, Flowering . . 191
 Amber 638
 Analysis of Soils and Manures . 211
 Ants, to Destroy 218, 629
 Apple Cultivist, Todd's . . . 197
 Crab 600
 Northern Spy, barren . . . 515
 River 113, 278
 Rome Beauty 313
 Sweet Bough 380
 Apples, abundance of 292
 in Genesee Co., N. Y. . . . 50
 Apple Trees, Age for Budding or
 Gratting 393
 Bark Lice on 393
 Borers 498
 Caterpillars, Snuff for . . . 375
 Cultivation of 292
 Dwarf 246
 Fall pruning 600
 Fertilizers for 24
 Killed by Banking with
 Manure 572
 Moss on 598
 Pruning 305
 Scraping 526
 April, 1871 157
 Affairs on the Farm . . . 158
 Garden for 202
 Ashes of Hard and Soft Wood . 159
 Asia, Life in 149
 Asparagus 63, 202, 314, 352, 552
 Aspen 105
 Asthma 559
 August, Garden in 351
 Autumnal Scenery 77, 601, 635
 Z-zalca 121
- B** ARN Cellars 620
 Dairy 310
 for 3200 Cattle 310
 Ira Allen's 98
 Jarvis Pratt's 127
 Itch 180, 199
 Barometers 628
 Rules for Use of 618
 Barrels or Casks, to Cleanse . 139, 247
- Beans 63, 262, 314, 352, 542
 Harvesting 621, 635
 Poles for 202
 Beavers and Muck Beds . . . 21
 Bees and Honey 508
 Brood, foul 648
 Curious Instincts of . . . 503
 Deserting Hives 360
 Feeding 171
 Hive, Movable Comb . . . 589
 Hiving 284
 Hives 648
 Hives, distance apart . . . 369
 Honey, Room for Surplus . . 229
 in April 281
 Italian 26
 Failure with 510
 Keeping 510
 Keeping, a Trade 636
 Late Swarms 626
 Queens, number in a Swarm . 369
 Stings, fresh Meat for . . . 391
 Swarming, to prevent . . . 360
 Transferring 360
 Weak Colonies 369
 Why don't they Swarm . . . 566
 Wintering 56
 Beet Sugar in California . . . 644
 in Wisconsin 571
 Beets 63, 202, 242, 314, 352, 552
 American Improved Impe-
 rial 71, 194
 Seed growing 566
 Sugar in California 636
 in Illinois 201
 in Wisconsin 528
 Bird Law in New York 519
 Birds, Migration of 89
 Blackberries 314, 352
 Dorchester 150
 Double Flowering 191
 Kittentiny 151
 Large Patch 150
 Lawton 150
 Blanket, a good old 204
 Blister Fly 581
 Blood and its Circulation . . 647
 Blue Bird 89
 Bobolink 89
 Book-keeping for Farmers . . 102
 Bones Dissolved by Lime . . 256
 Borers, Apple Tree 169
 Botany for Farmers 233
 Boulders, splitting by Fire . . 297
 Boy Farmer 175
 Boys, give them a Chance . . 268
 Bronchitis 558
 Brown, Farm of Hon. Simon . 318
 Brush killed by Sheep . . . 129
 time to cut 371
 Brusel Sprouts 243
 Buckwheat ploughed in . . . 516
 Budding, age of Trees for . . 393
 Bull dog, death of 122
 Bugs, keeping from Vines . . . 543
 Bulbs, Crocus 675
- Bulbs, Cyclamens 675
 Dutch Flowering 674
 Hyacinths 674
 Jonquills 675
 Scilla 675
 Tulips 674
 Bump, Salathiel 148
 Burdocks, to kill 510
 Bussey Farm 230
 Institution 331
 Butterfly, Chrysalis, with Gold
 Spots 272
 Danais Archippus 573
 Hawk-moth, Five-spotted . . 573
 Papilio Asterias 272
 Preserving 180, 199
 Saturnia Io 583
- C** ABbage 63, 202, 242, 262, 314
 542, 552
 Club-foot in 233
 Culture 350
 Seed growing 567
 Worm 146, 257, 510
 Winter preservation of . . . 48
 Cacti 121
 California, New Crops in . . . 671
 Capron, Hon. H., Address . . . 29
 Canker Worm 233, 505, 506, 507
 a new 653
 Canada, Crops, &c., in 509
 Foot and Mouth Disease in . 129
 Thistles, how killed 604
 Farmer, History of a 663
 Season and Crops in 377
 Carolina, Lock's Code of Laws . 78
 Carrots 64, 242, 262
 and Beets, Corn with . . . 510
 Carts, housing 234
 Casks, to cleanse 139
 Cauliflower 64, 242, 262, 352, 542
 Cattle, Amount in several States . 154
 Ayrshire 337
 in Ohio 50
 at Low Prices in Maine . . . 653
 Barn or Winter Pen 132
 Bedding, Sand for 88
 Black Leg 136
 Blooded Stock, a Hobby . . . 501
 for common Farmers 486
 Bone Disease in 654
 Breeders, Advice to 123
 Bronchitis 131
 Bulls and Stallions for Work . 26
 Bulls working in Hot Weath-
 er 58
 Calf Poisoned by Paint . . . 319
 Calves, Blackleg in 572
 Care of 600
 Raising 172
 at an Ag'l College 345
 without Milk 286
 Souring 279
 Canada Steers 224
 Choked 200, 278, 336

- Cattle, Commissioners on Disease . . . 90
 Cooking Food for Stock . . . 610
 Cost of Raising . . . 556
 Cows, Abortion . . . 124
 Beans for Garget . . . 73, 599
 Bone Disease, Soft Soap
 for . . . 600
 Calving, Time for . . . 60
 Treatment after . . . 257
 Care of in Spring . . . 280
 Cause of a Cow's Death . . . 73
 Cough in Heifer . . . 558
 Corn Fodder . . . 143
 Corn Meal and Fine Feed
 for . . . 94, 97
 Cotton Seed Meal . . . 97
 Drying off . . . 162, 329
 Dutch . . . 505
 Dying . . . 517
 Eating up the Barn . . . 161
 Experience, Twenty-five
 Years . . . 178
 Food for Milk . . . 75, 97, 138, 343
 Foot-rot in . . . 583
 Filtharia Bronchialis . . . 277
 Garget, Beans for . . . 73, 599
 Root, Dose of . . . 599
 Green Fodder for . . . 143
 Heifers, Age to Come in . . . 354
 376
 Heifers, Breeding to Milk . . . 363
 History of several . . . 178
 How Long to Milk . . . 117
 Jersey Heifer's Product . . . 339
 for Beef . . . 355, 390
 for Butter . . . 151, 171
 Management of . . . 124
 Meal and Meadow Hay . . . 129
 Jerseys, Product of . . . 343
 Management of in Holland . . . 651
 Milk, *See Dairy*
 Milking till Time of Calv-
 ing . . . 200, 213
 Murrain . . . 517
 Oil Meal . . . 97
 Pregnancy, Signs of . . . 103, 146
 Produce of single Cows . . . 148, 321
 189
 Puerperal Fever . . . 189
 Rye for . . . 655
 Sweating under Tongue . . . 276
 Tails, Cutting . . . 505
 Teats, and Cure of . . . 310
 Side Orifice in . . . 329, 340
 Warts on Heifer . . . 288
 Water, Red . . . 339, 509
 Bloody . . . 585
 Withholding for Milk . . . 668
 Wooden Pin in Back of . . . 390
 Devons for all Purposes . . . 32
 Disease in England . . . 172
 Spread of Contagious . . . 101
 Durham—*See Short-horns*.
 Dutch . . . 112
 Dying in Corn Fields . . . 70
 Eating Boards, &c. . . 177, 191
 Epizootic Aphthæ.—*See Feet
 and Mouth Disease*.
 Feed and Care, best . . . 163
 Feeding . . . 125
 Films on Eyes . . . 297
 Fodder, Cooking . . . 289, 325
 Cutting . . . 118, 125, 131, 171
 Stemma . . . 129
 Millet for . . . 147
 Feet and Mouth Disease . . . 70
 85, 90, 99, 101, 119, 129, 130, 136
 148, 183, 192, 198
 Foot Rot, 20, 39, 41, 70, 72, 135, 630
 Foul . . . 375
 Gnawing Boards . . . 229, 233
 Health of Animals . . . 632
 Head-book Entries . . . 587
 Hereford . . . 151
 Bull . . . 121
 History of . . . 134
 Horn, a Broken . . . 662
 All . . . 119
 Housing in Stalls . . . 649
 Ick, Barn or Winter . . . 132
 Cattle, Lice on, 69, 97, 135, 147, 172
 584
 Microscope in Examination
 of Disease . . . 386
 Neat, Profitable . . . 143
 Ox, Film on Eye . . . 145
 Killed by bit of Hoop-knit . . . 391
 Necks, to Harden . . . 637
 Prices, Low . . . 564, 653
 of Pure Breeds . . . 661
 Short-horns . . . 94, 161
 for Holiday Beef . . . 56
 Heifer, Mattie Newell . . . 388
 Sturtevant Bros' . . . 622
 too Fat to Breed . . . 649
 Salt for, 287, 321, 374, 530, 534, 561
 560
 Scouring in . . . 638
 Stifle Out . . . 94
 Su plur for . . . 583
 Summer Care of . . . 531
 Surface Water for . . . 20
 Texan . . . 154, 523, 672
 Throat Disease . . . 131, 588
 Treatment of Stock . . . 532
 Tumor in a Steer's Chest . . . 198
 Tying up . . . 620
 Weight, Computing Dressed . . . 240
 Cedars, Transplanting . . . 560
 Celery, 64, 242, 262, 314, 352, 542, 552
 645
 Wild . . . 549
 Collars, Foul . . . 279
 Out-door . . . 615
 Roots in House . . . 606
 Cereals, Growth of . . . 18
 Chalk Farms, Naturally Drained . . . 635
 Chandler, Firm of Senator . . . 519
 Champlain Horticultural Society . . . 26
 Cherry, Double Flowering . . . 191
 Trees in a Pasture . . . 575, 621
 Chess . . . 629
 or Cheat . . . 608
 Chester, N. H., Fair . . . 623
 Chicory, Wild . . . 549
 Children . . . 250, 396
 Chinese Laborers . . . 531
 Cider, Bottling . . . 118, 163
 in New Hampshire . . . 292
 Mills, Cast-iron . . . 563
 Cisterns, Cement . . . 38
 Clay, Henry, on Ag'l Education . . . 212
 Climate, Southern . . . 105
 What an Englishman says
 of our . . . 284
 Clover, Alsike . . . 209, 213, 278, 297
 Fall Sowing . . . 508
 Growing where Brush was
 Burned . . . 663
 Ploughing Under . . . 522
 Seed, Growing and Saving . . . 389
 Vitality of when in the
 Ground . . . 663
 Clubs, Farmers' . . . 78, 81, 513
 Cobæa Scandens . . . 120
 Colburn, Hon. J. W., . . . 177
 Cold Frames . . . 111, 292, 645
 Year, 1816 . . . 617
 Colorado Potato Bug in Mass. . . 531
 Connecticut Valley, Crops for . . . 152
 Crops in . . . 228
 Consolation for Time of Discour-
 agement . . . 578
 Convention of Ag'l Colleges . . . 592
 Copperas and Saltpetre for Pear
 Trees . . . 539, 534
 Crumder . . . 242
 Corn . . . 64, 314, 352, 542
 and Wheat Growing . . . 375, 376
 Average Yield . . . 200
 Best Early . . . 215
 Best Method of Harvesting . . . 81
 Boiled for Stock . . . 342
 Branching . . . 44
 Brown . . . 152
 Ryfield, Crop of . . . 353, 532
 Cost and Value of an Acre
 in Vermont . . . 664
 Crop in Shrewsbury, Mass. . . 265
 Cultivation of . . . 217, 295
 David Pitt's big Crop . . . 391
 Corn, Does it Pay to Raise? . . . 170
 Dr. Nichols' Receipt for
 Raising . . . 119
 Drying Green . . . 517
 Sweet . . . 231
 Ears, number of to Bushel . . . 296
 Experiments in Manuring . . . 507
 Fodder 217, 257, 277, 278, 321, 343
 624, 660, 672
 Curing . . . 216
 for Winter . . . 132
 New Way of Raising . . . 179
 Stooking . . . 152
 for a Pound of Pork . . . 671
 Great Crops of . . . 154
 Harvesting . . . 511, 632
 Harrowing . . . 258
 Manuring, loose Statements
 of . . . 393
 not Indigenous . . . 279
 Preparing Ground for . . . 300
 Prices in Illinois . . . 50
 Raising . . . 143, 172
 in New Hampshire . . . 26
 Seed from different parts of
 the Cob . . . 238
 Seed Importance of Good . . . 296
 Tend it Late . . . 384
 78. Hay . . . 556
 Winter Manuring for . . . 384
 Yield per Acre . . . 115
 Cornell University . . . 590
 Correspondents . . . 197
 Cottage, a Small . . . 52
 Cotton Seed . . . 117
 Crab Apples . . . 609
 the Hermit . . . 267
 Cress, or Pepper Grass . . . 202
 Crops as Substitutes for Hay . . . 371
 Depreciation of . . . 581
 in Connecticut Valley . . . 228
 Plough and Care of . . . 227
 Cultivation, Clean . . . 611
 Cultivator, a Home-made . . . 516
 Curculio Traps . . . 372
 Cucumbers, 64, 242, 262, 314, 352, 52
 Raising for Pickles . . . 214
 Currents . . . 263, 314
 Worm . . . 339, 342, 510
 Cut Worms . . . 507
 Cypress of Summa . . . 572
 DAILIAS . . . 613
 Dairy man, a Herkimer Co. . . 145
 Dairymen's Association . . . 132
 Dairy in Ohio . . . 279
 in Shelbygan Co. Ill., . . . 50
 Needs of . . . 132
 of Henry Noble . . . 290
 Products, Decline of . . . 114
 Profit and Loss . . . 343
 Utensils, Purifying . . . 247
 Butter, Adulteration of . . . 660
 Amount in United States . . . 220
 Amount for coloring . . . 94
 Carrots for coloring . . . 200
 Churning . . . 137, 145, 147
 Coloring . . . 71, 80, 94, 145, 172
 179, 200, 523
 Colored or uncolored . . . 130
 Dairy . . . 673
 Exhibiting . . . 605
 from a Cow with two teats . . . 105
 from one cow . . . 148
 Gilt Edge . . . 391
 Good, How Made . . . 345
 in Greenfield, Mass. . . 119
 Jersey cows for . . . 151, 171
 Making . . . 66, 99, 151, 232, 248
 258
 W. H. McAllister . . . 513
 Preserving Flavor . . . 588
 Premium . . . 112
 Saltpetre in . . . 104, 157
 Saltpetre, use of . . . 137
 To keep in summer . . . 395
 Tubs, Preparing . . . 26
 Washing . . . 105, 171, 172
 Western . . . 37
 White Specks, strainer for 312

Dairy, Butter, White Specks	137.
200, 247, 248, 312, 341,	507
Winter, Making, 103, 231,	264
Working	172
Why Don't it Come	64, 169, 182
Cheese, Amount in United States	220
Factories, Rutland, Vt.	279
in Wisconsin	279
Flies	212
Modes of Making	43, 99, 133
New Way to Make	249
in North Carolina	42
Premium in New York	43
Shipments of	672
Rooms, Temperature of.	1-6
Tub	180
Cream, care of	137
Frozen	172
Salt-petre in	24
that could not be churned	
in Summer	130
Warning	179
What Ails the	87, 179
Milk Affected by Disease	100
as Medium for Disease	174
Bloody	199, 619
Closest	200
Cooling	1-9
Fever	289
Extension of	330
for New York city	50
from one cow	148
Horse-radish for keeping	
sweet	572
Nutritive value of	383
Pound and Quart of	661
Prices of	6-9
Shelves	157
Selling	104
What Ails the	172
Dam with gate way across a Brook	516
Daughters, Education of	640
December, Garden in	645
Not Gloomy	641
Depopulation of Rural Towns in New England	180, 272
Deutzias	191
Dirt, Love of	615
DOMESTIC ECONOMY.	
Apple Snow	252
Beet, corned	395
Bread, to prevent Drying	395
Bulbs, new use for old	395
Burn, Salve for	390
Cabbage, Pickling Red	108
Cakes, Buckwheat	108, 252
Jelly	348
Lemon	348
Seed	108
EWES	108
White Mountain	348
Carpets, moths in	519
Chicken, Boneless	348
Cucumbers, Pickling	523
Currant Wine, to make	389
Curds and Whey	395
Domestic Habits	83
Doughnuts	103
Dress, Code of	347
Drinks for Summer	346
Dumplings, Potato Paste for	348
Flowers, to Change Color of	348
to keep Fresh	395
Frying, Philosophy of	347
Furniture, to Remove Brui-	
ses in	535
Girls, Idle	347
House-keeping, Modern	155
Jelly, Red Currant	395
Jumbles, Sugar	348
Lard, Leaf	107, 252
Marmalade	108
Meat, Canning Fresh	313
Muffins, Graham Flour	676
Mutton, Dressing for	304
Paint, to Remove from Iron	544
Pears, Boiled	108
Potatoes, Cooking	395
French Mode of Frying	252

DOMESTIC ECONOMY.—Continued.	
Potato Paste	108
Puffs for Tea	348
Pudding, Boiled Indian	675
Long-branch Berry	2-2
Orange	395
Quince Preserves	676
Refrigerators	598
Home-made	522, 541
Sauer-Kraut, making	676
Sausages, making	1-7
Smoking meat	342
Soap Making, Danger in	524
Sting of Insects, Coal Oil for	395
Succotash in Winter	630
Veal, Cold	252
Vinegar, Raspberry	394
Waffles, Rice	348
Wet, what to do when	557
Yeast Graham Bread	598
Drainage	358
of Dry Land 362, 382, 539, 554,	577
Drainage of all Lands	308, 324
Economy of	1-6
Importance of	167
in October	547
Value of	283
Drought and the Grasses	349
a Hopeful View	544
EDUCATION	160
of our Daughters	640
Economy Necessary to Thrift	6-5
Egg Plant	64, 68, 202, 213, 242, 262
	314, 352
Egyptian Agriculturist	105
Empysemata, Pulmonary	568
Endive	64, 314, 542
England, Steam Cultivation in	215
Eye Glasses	140
Everlasting Flowers	163
PAIRS, Horse Racing at	337
Politics in	513
Falcon	89
Fall, Best time for Transplanting	
Trees	605
Faneuil Hall, Wagons for a month	201
Farm, Advertising for Sale	514
a Good	561
a Massachusetts	259
cheap, in Massachusetts	56, 86
Eighty-five years on One	148
English Prize	687
Embellishment of	35
Experiments	111
Improvements, Letting	225
Improvement in a Massachu-	
setts	6-7
Indian Hill	28
in Essex Co., Mass., How	
made Profitable	620
in Mass. for a Western Me-	
chanic	619
Life Pictures, scenes of	518
Machinery	535
Making a New out of an Old	
One	650
Neatness on	322
of Abner H. Davis	607
of Allen, Ira	98
of Dr. Nichols	510
of Gov. Brown	315
of Johnson & Cogswell	588
of Joseph A. Smith	650
of Luke Adams	643
of Michigan A'l College	672
of T. P. Root	643
of Sturtevant Bros.	622
of Warren Brown	561
Prices of, in Vermont	105
Roads	633
Steamers on	153
Tribute to the	57
Work for October	546
Why Young Men Leave	69
Farmer, a Boy	175
Advice of an Old	656

Farmer, a Good	561
an Un-successful	266
an Old Working	617
Monthly	236
Old New England	1-3
Who is entitled to the name?	219
Farmers' Book keeping for	102
and their Creditors	621
Club, a big	145
Buying Supplies by a	207
Norfolk, Mass.	286
Clubs	78, 81, 91, 95, 139
Importance of	669
Topics for	275
Constitution and By-laws	91
in England	1-4
Economy of Western	665, 670
Education of	212
Hard Look for	505, 617
Home, a well-regulated	591
Rambles among	525
"Interested"	21
Ring	212
Should be Educated	263
Talking	52
Wives	327, 736
Farming, a Liberal Profession	224
Does Intelligent Pay in Mas-	
sachusetts	643
Extravagant Statements of	
Profit	666
How Money was made at	6-3
in Southern States	51
Knowledge Required in	5-3
Plans for	157
Profitable	321
Specialties in	83
Towns, Decrease of Popula-	
tion	180, 225
February, Garden in	1-3
Thoughts	61
Work in	62
Feed, Dear	500
Fence, Fire Proof	617
Posts	523
Stone or Wood	147
Wire	630
Fertilizers, Use of Concentrated	559
Fever and Ague, Cold Sweats	147
Fig Tree, Barren	238
Fire in the Woods	695
Flax, New Zealand	119
Flies, Pumpkin Vines for	290
Flower Garden in May	244
Seeds, Sowing	235
Garden	523, 612
Flowering bulbs, Dutch	674
Flowing of Meadows	533
Fodder, Cutting the	17
Secrecy of	508
Steaming the	17
Forest Trees,—see Trees.	
Forests, Uses of the	368
Franklinham Farm Notes	622
Frank Forrester's Horse Book	177
Fruit Kilm	43
Fruit Trees	287
Borers in	510
Management of	629
Planted by an old Man	671
Pruning	305
Stunted	229
White-washing	618
Fruits, an Englishman's opinion	
of American	284
Utilizing the Best	547
Fuel, How to save	595
Fue	129, 163
GALE in Western Massachu-	
sets	180
Garden Crops, Moisture for	346
Farming	560
Flower	190, 315, 528, 612
Give more Attention to	158
in April	202
in August	351
in December	645
in February	63

- Garden in January 15
 in July 313
 in June 262
 in March 110
 in May 242
 in November 396
 in October 351
 in September 341
 Rotation of Crops in 645
 Gardening Out-door 502
 Window 95, 120
 Wild Flower 373
 Woman's Work in 251
 Window 54, 79, 95
 Garget, — *see* *Poke*.
 Dose of 599
 Geraniums 315, 612
 Zonale or Horse-shoe 372
 Germs of Infectious Disease 192
 Geese Feathers 37
 Gen. Grant's Dairy Farm 201
 Gail flowers 121
 Girl, a Rich Man's 267
 Glass-blowing 161
 Colored, for Plants 27
 Gladioli 356, 613
 Glooms of November 593
 Goats 44, 585
 Gooseberries 263
 Mildew on 384
 Mulching 520
 Grafting, age of Trees for 393
 Wax 264
 Gratton Fertilizer 211
 Grain, Feeding 17
 Growth of 18
 Winter 204
 Grapes 314, 352, 552
 and Wine Growing 602
 Frosted in Spring 330
 Grafting Vines 25, 195
 Growing, Book on 613
 on Clay Soil 330
 Grass, *Agrostis Alba* 289
 and Drought 349
 Curing 526
Elymus Striatus 272
 English Bent 239
 Failure of Crop First year 374
 Fattening Cattle on 529
 Fields, Rotten Places in 582
 Hungarian 185, 232, 257, 345, 371
 Land, Re-seeding 583
 Top-dressing 521
 Laying Land to 39
 Millet 185
 Orchard 199, 209, 213, 217, 274
 511, 543
 in Pennsylvania 572
 Rye 272, 534
 Seed 69
 for an Acre 170, 531
 Seeding, thick and thin 207
 Tall 531
 Timothy, loss of 218
 variety of 200
various Grain 142
various Wheat 208
 Wild Rye 272
 Witch 534
 Grasshoppers in Maine 394, 570, 576
 for Bugs 571
 Grub, Salt to prevent 536
 HAIR Snares 57
 Hard Times for Farmers 621
 Hares Blacking 617
 Hawk-meat, Five-spotted 516, 628
 Hay, amount per Acre 391
 and Corn 600
 and Corn, Value as Food 616
 and Straw, as Speedies 270, 281
 294
 Bone Meal, on 191
 Clover, Curing 298, 352
 Cutting and Curing 259, 339, 378
 565, 515
 Early cut 243
 Harvesting 301
 High Price of 562
 Hay, how shall it be Cured 378
 How to Raise Large Crops of 570
 Light Crops, Thoughts on 478
 Making 505
 Making Clover 298, 352
 New Method of Curing 380, 513
 Poor Prospect of 216
 Packing New with old 534
 Meadow 539
 Premiums for 539
 Preserving 147
 Steaming 540
 Value and Importance of 366
 Value of crop 392
 vs. Corn 556
 Why not Pay Premiums for 399
 Hay, Discussion on 359
 Implements 349
 Health Affected by Agriculture 184
 Hemlock and Oak Tree 672
 Hens in Place of Dogs 311
 Herbs 314, 352
 Hedgesgrass, cutting in Blossom 19
 Tail 588
 Hired Man 370
 Hobbies 501, 526, 586
 Home Embellishment 35
 Homes, Practical Description of 564
 Country 191
 Honey-suckle, Tartarcan 279
 Hops, Loss on 130
 Horses, Acaries or Pin Worm in 136
 136
 Ankle, Swelled 24
 Breeding 97
 Bots, Nux Vomica 530
 Collar, Fitting to Horse 106
 Colts, Bunch in Throat 340
 care of Sucking 389
 Training 303
 Corn for 86, 103, 148, 392
 Cribbing 341
 Degeneracy of from Racing 544
 Dosing 142
 Expense of 536
 Farm, Degeneracy of 636
 Fast, Profit in Raising 341
 Fattening 41, 72
 Feet, Hard and Contracted 33
 Pumiced 672
 Flies on 49
 Floors for Stables 23
 Foulmer in 524
 Frog in Foot 129
 Hay-ter 328, 559
 Heaves 225
 Iowa, raising in 190
 Knees Injured by Standing 583
 on Inclined Floor 218
 Kentu-ky, Horse Exhibition 218
 Lame 583
 Linseed Tea for 40
 Looseness in 24
 Market in Boston 257
 Morgan, the 178
 Neck, Galled 637
 Hardening 98
 Position of 128
 Oil Meal for 603
 Percherons 162
 Imported at 27
 New York 146
 Massachusetts 35, 321, 357
 Prices in Paris 160
 Red Water 304
 Ring Bone 553
 Scratches 310
 Shoeing 489
 Hints on 135
 Shoulder, Galls 25
 Spavin, Bone 511
 Splint cure for 148
 Stables, Ventilating 516
 Stock Company 340
 Stallions, and Bolls for Work 23
 Worked in France 511
 Stopping Runaway 148
 Talk about 516
 Teeth, too Long 340
 Throat of Colt, Bunch in 23, 24
 Thrush in 24
 Horses, Tumor 24
 Urinary Trouble 58
 Warm Stables Injurious 519
 Warts 24
 or Tumor on Colt 152
 Winnings of 1870 92
 Working Six or Seven Days 63, 111, 202
 Horseradish, Horse-chestnut 111
 Hot Beds 195
 a Cheap 42
 Horticultural Patents 16
 House, a Country Farm 84
 Double or Single 251
 Keepers, to young 234
 Howard Sanford 19
 Humpings 571
 Human Limbs, Harvest of 257, 371
 Hungarian Grass 653
 Hybernia Tiliaria 636
 INSECTS, Cloud of 608
 Loss from 279
 Iowa Agricultural College 50
 Illinois, Corn in 172
 Dairymen's Convention 630
 Season and Crops in 563
 Implements, Care of Farm 192
 Infectious Germs 268
 Irrigation 353
 or Drainage 120
 Ivy 42
 Ivy Poisoning 15
 JANUARY, the Garden in 13
 Thoughts 395
 Jewelry, Coral 548
 Jockeys, Discipline of English 510
 Jones and Smith 525
 Jones, Frank, Farm of 301
 July, 1871 302
 Farm Work in 356
 Flower Gardening for 313
 Garden in 202
 June, Garden in 253
 Things about 64
 KALE 65, 73
 Kansas 218
 Kentucky, Horse Day in 156
 LAMPS, When to Fill 620
 Lards, Improve the Low 265
 Wet, Management of 121
 Lantanas 573
 Lawns 250
 Left-handedness 64, 242, 532
 Lettuce 567
 Seed Growing 356
 Lilies 636
 Planting Pond 396
 Little Things 568
 Locust, the Honey 94, 118
 Log, Contents of a 600
 Louisiana State Fair 155
 Love Gifts 639
 Youth and Hope 118
 Lumber in a Log 153
 MACHINE for Cutting Brush 153
 Maine, Arrostook, State 220
 Land in 610
 Board of Agriculture 335
 Corn raising in 505
 Crops in 231
 Franklin Co., Stock and 570
 Dairy in 600
 Gloomy Prospects in 394
 Gov. P. Ham, a Farmer 116
 Grasshoppers in 542
 Kennebec Society 633
 Letter from 576
 Low Prices of Stock in 377
 Notes from Franklin County 261
 Season and Crops in 261
 Sheep Raising in 261

- Maine, Swedish Settlers in 140, 203
 Wheat in 19
 Manure, Application of 166, 171, 239
 298, 335, 338
 Ashes . . . 111, 142, 176, 323, 375
 Coal . . . 58, 353, 375, 599
 for Wet Land . . . 554
 Dry, as an Absorbent . . . 353
 for Apple Trees . . . 179
 How to Use . . . 598
 in Hill . . . 507
 Leached and Unleached . . . 280
 of Soda . . . 171
 Wood, value of . . . 289
 with Chip Manure . . . 176
 Bone Dust . . . 167, 169
 Bones, Utilizing . . . 367
 Chemical Reasons for saving
 Liquid . . . 655
 Compost . . . 176
 for Top-dressing . . . 24
 Composting and Saving 142, 290
 Crib for Compost . . . 83
 Experiments in, for Corn . . . 507
 Special . . . 247
 Fertilizers . . . 131
 Fall Application . . . 667
 Home-made . . . 544
 Effects of on Soil . . . 317
 Frauds in . . . 173
 for Potatoes . . . 320
 for Tobacco . . . 279, 355
 Gas Lime . . . 139, 176, 200
 Grafton Fertilizer . . . 111, 112, 120
 142, 320, 328
 "Heavy" Manuring . . . 344
 Harrowing in . . . 290
 Hen Manure Compost . . . 255, 341
 Hauling out in February . . . 63
 How lost . . . 170
 Indian Meal for . . . 364, 560
 Increase and Strengthen the . . . 397
 Lime . . . 176, 223
 and Muck . . . 111, 176
 and Salt . . . 142
 Ashes . . . 320
 Making . . . 250
 Marl and Muck . . . 140
 Muck, 76, 111, 122, 131, 140, 142
 145, 176, 178, 290, 309, 319, 323
 328, 374
 and Manure . . . 178
 Collecting . . . 576
 Soils adapted to . . . 552
 for Apple Trees . . . 24
 Uses and Value of . . . 273, 548
 Using Fresh . . . 343
 Value of . . . 648
 Mulching . . . 254
 Phosphate, Loss of . . . 292
 Ploughing in 55, 132, 164, 170, 213
 231, 243, 290, 298, 328, 355
 Potash for Orchards . . . 177
 in Ashes . . . 179
 Privy Compost . . . 300
 Rotten Wood, for Violets . . . 275
 Rubbish, Rotting . . . 83
 Salt . . . 323
 Saving . . . 27, 239, 544
 Use of on Soil . . . 508
 Sawdust . . . 58, 88
 Seaweed, Cove . . . 652
 Spreading in Winter . . . 255
 Superphosphate . . . 247
 Bradley's . . . 233
 Does it Impoverish the
 Soil . . . 317
 Experiments with . . . 655
 Surface Manuring . . . 284
 Top Dressing . . . 55, 88, 143, 164
 243, 290, 298, 540, 571
 Urine as a Fertilizer . . . 277, 290
 Value of from Different
 Feeds . . . 97
 Winter care of Stable . . . 231
 March, Flower Gardening for . . . 190
 Garden in . . . 110
 in New England . . . 109
 Marketing Farm Produce . . . 191
 Marsh in Lenox, Mass. . . . 279
 Matter, Insoluble . . . 256
- Mass. Ag'l Board, Framingham 95
 College Prizes to Students 36
 Does Farming Pay in . . . 64
 Essex, Transactions . . . 159
 Farms Cheap in . . . 56, 86
 State Board of Ag'l Subjects
 for Report . . . 175
 Tobacco in Western . . . 41
 May, and May Revelries . . . 205
 Garden in . . . 242
 Farm Work for . . . 246
 Flower Garden in . . . 244
 Meadow, a Reclaimed . . . 651
 an Old Bog . . . 217
 Meadows, Flowing . . . 560
 Meal for Manure . . . 560
 Merrimac, Valley of . . . 666
 Michigan Ag'l College, Students 279
 Farm of . . . 672
 Microscope in Post-Mortem Ex-
 aminations . . . 386
 Millet . . . 184, 255, 371
 and Hungarian Grass . . . 516
 for Fodder . . . 147
 Mink Breeding . . . 352
 Mocking Bird . . . 204
 Mosquitoes, to Prevent . . . 636
 Mowing Machine, Spite against
 in England . . . 617
 Muck, Sharp Sticks in . . . 21, 70
 Use of—See Manures . . .
 Mulching . . . 254
 Mushrooms . . . 54
 Muskmelon . . . 64, 542
 Mustard . . . 243
 Cultivation of . . . 198
- NEIGHBORS, Friendly . . . 572
 New England Ag'l Society 116
 Depopulation of Rural
 Towns in . . . 225, 272
 FARMER, Monthly . . . 174
 Close of Second Series 676
 FARMER, New Volume 141
 New Hampshire Board of Ag. 537
 Corn Raising in . . . 26, 636
 Crops and Fairs in Merrimac 361
 Mountaineers . . . 615
 Notes from . . . 614
 Questions of Board of Ag'l 21
 NEW PUBLICATIONS.
 Address, Lafayette College 602
 American Naturalist . . . 602
 Catalogue of Michigan Agri-
 cultural College . . . 671
 Curculio, Ransom's Essay
 on Trapping . . . 286
 Guide to Study of Insects 671
 Money in the Garden . . . 255
 Wallace, American Trotting
 Register . . . 236
 What I Know of Farming 285
 War Department Circular 670
 Nichols, Dr. Farm of . . . 590
 North Carolina Cheese in . . . 42
 Note, a Swindling . . . 332
 Farm, cares for . . . 395
 November Aspects . . . 393
 Garden in . . . 396
 Numbsculls and Book Farmers 642
 Nurses, Lady . . . 156
- OATS for Fodder . . . 162
 Musty . . . 85
 October, Farm Work for . . . 546
 Facts and Fancies . . . 545
 the Garden in . . . 551
 Ogden Farm . . . 258
 Oil Meal . . . 117, 128
 Old and True . . . 600
 Onions, 64, 202, 208, 243, 246, 272, 279
 300, 314, 352, 552
 Grub . . . 208
 Seed Growing . . . 567
 Soil for . . . 567
 Officers Agricultural So. . . 256, 241
 Orchard Culture . . . 536
 Opium Culture . . . 165
 from the Poppy . . . 231
- PAINT, Fire Proof for Fence 330
 Parsley Worm . . . 573
 Parsnips . . . 64, 243, 552
 Wild . . . 549
 Passion Flower . . . 680
 Pasture, changing Stock in . . . 531
 Pastures, Failure of . . . 129
 Fences for . . . 34
 Management of . . . 33
 Mosses in . . . 372
 Improvement of . . . 83, 610
 Spade in . . . 34
 Stock for . . . 84
 Turning Stock to . . . 267
 Patents, Agricultural . . . 92
 in Horticulture . . . 42, 136
 Pay as You Go . . . 611
 Pea Weevil . . . 288
 Peach, Double Flowering . . . 191
 Peaches from one Pit . . . 50
 Pecanuts . . . 119
 Pear, Admiral Farragut . . . 651
 Buette Chairgaw . . . 521
 Dr. Shurtleff's Seedlings . . . 631
 Gen. Sherman . . . 631
 Golden Buette of Billboa . . . 260
 on Stiff Soil . . . 313
 Orchard, Profit of . . . 105
 Tree Blight . . . 557, 638
 Trees Dying . . . 509
 Dwarf . . . 657
 Winter care of . . . 662
 Peas, . . . 64, 243, 262, 314, 332
 Buggy . . . 321, 341
 Bug proof . . . 169
 Drying Green . . . 517
 Fall or Winter Planting . . . 95
 Peddlers' License . . . 340
 Peppers . . . 64, 243
 Pierce, Joshua, Farm of . . . 525
 Pike Driver, a Farmer's . . . 531
 Pine, Seeds of the White, when
 to Plant . . . 246
 Pitchfork, Striking Horses with 636
 Swindle . . . 673
 Plan and System . . . 567
 Plastic Slate . . . 58
 Plants from Seed . . . 277
 Pots, Worms in . . . 94
 to Protect from Cold and Lice 176
 Planting Seeds, Depth for . . . 211
 Plough, Paring or Turf . . . 252
 Reversible . . . 578, 665
 Ploughing Advantages of Fall 70, 659
 Boy killed by Horses taking
 Fright . . . 390
 Deep and Shallow . . . 31, 41, 644
 Deep, for Worn-out Land . . . 133
 in Spring . . . 206
 Plum, Double Flowering . . . 191
 POETRY.
 Affection's Tribute . . . 372
 Baby Belle . . . 616
 Baby's First Tooth . . . 394
 Barn the Old . . . 116
 Farm Wonders . . . 609
 Forty Signs of Rain . . . 266
 Garden and Orchard . . . 552
 Grandfather's Barn . . . 224
 In My Garden . . . 466
 Jones . . . 240
 Jones and Smith . . . 585
 July . . . 363
 Love's Colors . . . 559
 Marguerite . . . 155
 Michigan Emigrant's Song . . . 92
 My Birthday . . . 637
 Our Darling . . . 204
 "Smith and Jones" . . . 554
 Spring—an Invocation . . . 215
 Sugar Camp . . . 120
 That Lime Fence . . . 184
 The Bashful Lover . . . 639
 The Cows are Coming . . . 212
 The Seed and the Sowers . . . 671
 The Old Arm Chair . . . 346
 When I Was Young . . . 105
 Winter Poem . . . 81
 Poisons, . . . 47, 59, 74
 Pollen, Substitute for . . . 360

- Poplin, Irish 640
 Poke, Garget, *Phytolacca decan-*
dra 575
 Indian—*Veratrum viride* 575
 Pork, Bad 19
 Decline in Price 571
 from a Bushel of Corn 571
 Making in Massachusetts 558
 Raising at the West 568
 Treating Old 536
 Potash from Wool 60
 Potatoes 64, 243, 314, 352
 Beetle 581
 Colorado Bug 312, 337, 530, 533
 Early 214, 339
 for Stock 23, 237
 Raising 219, 249
 Seed 41
 Sprouting 240
 Storing 572
 Sweet 64
 the Foot 621
 Three lined Leaf Beetle 392
 Poultry, Asiatic Fowls 46
 Bran for 649
 Breeds 30
 Bullington's Yearly State-
 ment 199
 Cholera 136
 Diseases 172, 311
 Ducks Die Young 585
 Eggs, Difference in 379
 from Thirty Hens in Three
 and a Half Months 287
 to Get Plenty of 364, 555
 in one Hen 297
 Preserving 50
 Price in Chicago 279
 Sex of 330
 Value of 311
 Expense and Income 199
 Fat Meat for 320
 Gapes 585
 Geese Sick and Dying 119
 Goose Story 519
 House for 31, 512
 Lice 117
 Management and Care 31, 258
 Massachusetts Association 208
 New Places for 19, 94
 on a Large Scale 642
 Pip 118
 Profits 31
 Sitting, how to Prevent 163, 203
 Sore Head 327
 Tonics or Condiments for 580
 Practical Suggestions, by W. D.
 Brown 135
 Prairies, Waterless 215
 Pratt, Jarvis, Farm of 127
 Prices, Decline in 323
 Pump Legs, Bass-wood for 630
- Q**UINCE Japonica 25
- R**ABBIT Breeding 152, 163
 Racing at Fairs 219
 Radishes 64, 243, 263
 Ragweed, Dwarf 504
 Railroads and Agriculture 43
 Rain, Amount of Fall 391
 Rate banished by Goats 330
 now in Stanstead, Can. 376
 Respiration, Diseases Affecting 568
 Rev. John Cotton 651
 Rhubarb 242, 314
 Ring, who wore the First 107
 Ringing, &c., to Hasten Bearing 575
 Roads, Farm 633
 in old Times 169
 Trees on 41
 Rocks, Removing 546
 Rose, Bridal 191
 Bushes, Old 560
 Bush, Oldest Known 572
 Roots, Cultivating and Keeping 27
- S**AFFORD, N. B., Farm of 188
 Sage 243
 Salsify 64, 552
 or Oyster Plant 243
 Sandwich Island Farming 306
 Sait, Use of—*See Cattle* 147, 170, 654
 Scarlet Bonvardia 131
 Schools, our Winter 45
 Science, Industrial 568
 Seed, Importance of Good 227
 Depth for Planting 210
 Seeding Land 217
 with Corn Fodder 278
 without Manure 249
 Thick and Thin 207
 without Grain 217
 Seeds, Raising 567
 Selection, Natural 617
 September, Garden in 541
 Thoughts for 397
 Sheep and Mutton 329
 Brush Destroyed by 129
 Coarse and Fine Wools, 557 565
 Crossing 557 565
 Coarse Wool in Large 44, 50
 Flocks 385
 Cotswold 529
 and Merino 256, 565
 Feeding in England 91
 Diseases Caused by Beards 397
 of Grain 397
 Ewes, Fall Treatment of 627
 Breeding 241
 Food affects Wool 177, 630
 Foot-rot 627
 Herders in California 184
 Husbandry 236
 in Iowa 36
 Keep up the Standard 241
 Interest in Sheep Raising 672
 Lamb, when does it become 200
 a Sheep? 154
 Lambs from 23 Sheep 247
 Lamb Skins for Cloaks 175
 Leicester, Prolific 304
 Mutton and Wool 543
 Dressing 146
 Productive 177
 Pulling Wool 261
 Raising and Fattening 19
 in Maine 253, 311
 Rheumatism in 298
 Shearing 568
 Spring Care of Sheep and 592
 Lambs 516
 Watering 197
 Shingles for Roofs 387
 Silk in California 50
 Skin, Cleanse the 580
 Effects of closing Pores 580
 Skunk Skins, Deodorizing 654
 Snow Protection to Land 119
 Soap, Making 275
 Soda Lake 635
 Soiling 532
 Soils, Analysis of 385, 662
 Classification of 365
 Mixing Garden 279
 Restoring Exhausted 544, 582
 Sorrel 367
 South Carolina, Ag'l Society 92
 South, Yankees Invited to 225
 Sparish Fly 581
 Sparrow, English 379, 632
 Spinach 64, 243, 352, 542
 Spiraea 191
 Spraying, Early 223
 Squash 64, 243, 352, 542
 Borer 567
 Seed Growing 567
 Steam Ventilation 589
 Steam Cultivation in England 215
 Machinery on the Farm 153
 Sticks, Sharp in Muck 21, 70
 Stock Coming to Barn 16
 Stock, Grass-fed 26
- Stock, Potatoes for 23, 237
 Sales of 267
 Steaming Food for 17
 Supply of Water for 88
 Surface Water for 20
 Winter Care of 61
 Strawberries 49, 246, 263, 314, 552
 Mulching 598
 Soil for 576
 Time for Transplanting 576
 Wilson's 553
 Worm 243
 Stump Puller 191
 Stumps, to Prevent Suckering 342
 Subsoil for Top-dressing 516
 Subsoiling, Does it Pay? 144
 Sugar Beet, in California 644
 in Wisconsin 526
 Maple in N. H. 297
 in Vermont 259, 290
 Large Crop of 215
 Sumac 559
 Sunapee Lake 587
 Swamp Land, Value of 554
 Swedes in Maine 140, 263
 Sweet Flag Root 543
 Swine, Age to have Pigs 330
 Breeds of 57
 Chester County 57
 Cholera, Cooked Food for 279
 Soap for 250
 Cooked and Uncooked Food 160
 Cost of Raising 354
 Dressing 662
 Essex 57
 Experiments in Feeding 160
 Exposition 581, 610
 Fast of a 112
 Food, Cooking 160, 264
 Killing, Hints about 130
 Lung, Kidney or Liver Dis-
 ease 93
 Mackay 57
 Pigs from one Sow 290
 Jefferson County 60, 518
 Lane 517
 Profitable 72
 Shelter 49
 Scouring 279
 to Make a Sow own Pigs not
 her own 104
 Porkers, Heavy 199, 200
 Raising 144
 Slaughtering a Fierce 606
 Suffolk 57
 Sow, sick 320
 Water, Loss from want of 577
 Worms in Lungs 103
 Won't Eat, and Acts Queer 40
- T**ARTAREAN Honeysuckle 191
 Thistles, How I killed the 604
 Canada 558
 Throat Diseases 172
 Tin Sap Buckets 88
 Tobacco Crop 41
 in Massachusetts 617
 in Wisconsin 71
 Market 180
 Sales 71
 Sorting 71
 Tomatoes 64, 243, 263, 314, 352, 542
 552
 Plants 165
 Raising Early 283
 Salt for 201
 Worms 628
 Towel Costumes 639
 Town Fairs 623
 Transplanting Plants 362
 Trees by Roadside 40, 78
 Cultivation of 67, 113, 221
 Disease and Enemies of 221
 Forest growing in Iowa 519
 Rotation of 269
 Growth of Forest 201, 266
 Number to Acre 572
 Premiums on Growth 189
 Raising from Seeds 285
 Fruit 287

- E. S. S., Mrs. 172
 Eustis, Wm. 179
 E. W. O. 378
- F.** 20, 132, 147, 148, 278
 353, 392, 634, 541, 560
 Farmer 341
 Farmer, A. Young . 24, 117
 Farmer's Wife . . . 341
 Farmer, Valley . . . 97
 Farnsworth, C. H. . . 112
 Farmer, Fireside, 146, 217
 283, 286, 309, 383, 540
 Fernald, J. 258
 Fisher, C. M., 178, 231, 290
 600
 Fisher, R. A. 258
 Fisk, F. F. 608, 600
 Fleming, John 633
 Fletcher, Sherman D. . 653
 Fletcher, Thomas F. . 206
 575, 600
 F. M. 319
 F. N. 337
 Forbes, A. A. 622
 Foster, A. M. 130, 170
 F. O. W. 518
 Frederick 320
 French, Hiram 130
 Fuller, C. C. 227
- G.** 42
 George 289
 G. E. T. 573, 603
 G. B. E. 570
 G. H. B. 262
 Goodell, M. L. 234, 291, 532
 585, 630, 654
 Goodwin, E. M. 199
 Granite 377, 509
 Green, W. W. 278
 Greenleaf, S. D. . . . 214
 Greenleaf, S. P. . . . 290
 Grosvenor, Noble . . 391
 G. S. P. 187
 Guild, Edwin 87
 Gunn, Elijah 374
 G. W. 349
 G. W. P. 230
- H.** 23, 231, 659
 H. A. B., Mrs. 25
 Hager, Orin 59, 148
 Halt, Nathan 621
 H. A. M. 607
 Hapgood, Joab 665
 Hardy, W. V. 84
 Harney, Geo. E. 321
 Harris, Albert 41, 132
 Hart, T. L. 41, 72, 139, 287
 Harvey, D. L. 233
 Harvey, M. J. 192, 555, 560
 Haskell, Thomas . 321, 517
 Haven K. 510
 Hayward, N. O. 199
 Hayes, C. F. 129
 H. B. 214
 H. B. S. 278
 H. C. 163
 H. C. C. 233
 Joel Hersey 173
 H. E. T. 559
 Hill, J. C. 171
 H. L. S. 375
 H. M. 162
 Holbrook, T. G. . . . 375
 Homson, T. 340
- Horn, N. 290
 Horner, C. N. S. . . . 621
 Howard, Henry B. . . . 392
 Howe, J. B. 583
 H. R. 41
 H. S. 517
 H. S. C. 320
 H. S. E. 258
 Hubbard, J. L. 354, 502, 528
 554, 587, 621, 654, 667
 H. V. W. 341
- I.** 505
 I. L. F. 147
 Inquirer 25, 532, 634
 Isham, J. N. 320
 Ives, John S. 47, 94
- J.** 23, 34, 220, 571
 J. Jacobs, J. B. Mrs. . 200
 Jameson, Z. E. 98, 356, 629
 J. B. P., Mrs. 248
 J. C. 585
 S. E. C. 573, 575
 Jenckes, H. A. 321, 394
 J. G. F. 376
 J. H. K. 178, 247
 J. H. S. 198, 277, 289
 J. M. C. 147
 J. O. D. 119
 Johnson, James C. . . 170
 Johnson, P. 517
 Jones, 213 328 375, 580, 599
 Jones, Chas. E. 180
 Jones, John L. 214, 336
 Jones, W. F. 86
 J. R. L. 119, 171
 J. T. L. 321
 J. T. M. 148
 J. W. L. 354, 507, 510, 532
- K.** 393
 Kimball, C. E. 511
 Kimball, D. 200
 K. O. 51, 220, 228, 240, 272
 285, 296, 308, 345, 393, 515
 564, 622, 666
- L.** 145, 147, 505, 510, 621
 Lackey, N. 339
 Lane, Henry 72, 195
 L. D. R. 619
 L. E. G. 162
 Lincoln, C. F. 72, 88, 213
 Livermore, B. 39
 Loomis, T. E. 581
 Loring, H. W. 2, 88, 582, 655
- M.** 39, 94, 628
 Mansfield, Robert . 393
 Mattie 377, 519
 McAllister, John . . . 375
 McLaughlin, Benjamin
 F. 576
 Medical Man 47, 59, 74
 Miller, Henry 509, 590
 Miner, J. J. 516
 M. M. B. 26
 M. N. S. 248
 Moore, E. A. 515
 Morse, J. L. 118
 Morse Julius G. . . . 509
 M. P. B. 258
- Mrs. A. M. B. 312
 Mrs. Amos Taylor . . 517
 Mrs. C. D. 248
 Mrs. E. S. S. 172
 Mrs. H. A. B. 25
 Mrs. J. B. Jacobs . . . 200
 Mrs. J. B. P. 248
 Mrs. J. B. Sawyer, 233, 339
 Mrs. Mary Whatmore . 179
 Mrs. S. B. S. 152
 Mrs. T. G. 247
- N.** 58, 391
 New Subscriber . . . 161
 Noyes, Wm. 215
 N. S. T. 102, 142, 182
 Nutting, R. 338
- O.** 27
 O. H. 57, 131
 Old Iron 321
 Old Subscriber, . 340, 515
- P.** 93, 95
 P. Paine, A. W. 132
 Paine, P. S. 234
 Pattee, S. C. 289, 362, 588
 Peach, D. I. 177
 Pettet, J. W. 118, 238
 Phelps, Alex. S. . . . 628
 Pike's Peak 22
 Poor, Henry 341, 377, 632
 585
 Powers, Geo. Russell . 547
 Pratt, Fred G. 184
 Pratt, Jarvis 128, 665
 P. T. 324
 Puffer, Josiah 341
 Puffer, L. W. 629
- Q.** 230
- R.** 354
 R. A. F. 173
 R. C. 163
 Reader, a 172 317, 599, 654
 Reader, a Constant 69, 139
 172
 Reader and Subscriber . 57
 Reader, an Interested 373
 Reader, an Old 40
 Reynolds, V. B. 630
 Richardson, E. 393
 Rip Van Winkle 177
 R. N. 313
 Robinson, J. W. 102
 Rollins, E. 119, 234
 Romco 177
 Roy 172, 200
 R. S. 246
 Ryan, J. 105
- S.** 42, 87, 172
 Sabin, S. A. 58
 Sanborn, Francis G. . . 573
 Sanderson, F. L. . . . 232
 S. A. R. 574
 Sawyer, J. B. Mrs. . . 233
 Sawyer, L. B. 666
 S. B. S., Mrs. 152
 S. C. 117, 148
- Senex 231
 Sherman, E. F. 2
 Shurtlett, S. A. . . . 29
 Simonds, W. I. 53
 S. M. 276
 Smith, B. B. 246
 Smith, Royal, 143, 248, 325
 577
 Solp 130
 S. O. J. 24, 55, 80, 97, 122
 177, 183, 191, 277, 358, 374
 503, 529, 614, 676
 Spaulding, D. R. . . . 131
 Spencer, Gideon 665
 Spring, H. 103
 S. R. 598
 Stedman, J. H. 47, 59
 74, 335, 387, 559, 626, 648
 Streeter, Otis T. . . . 70
 Subscriber, a 24, 40, 71, 118
 128, 161, 163, 234, 246, 258
 288, 311, 375, 515, 534, 590
 583, 598, 630
 Sumner, Solon 130
- T.** 506, 612
 T. Taylor, Mrs. Amos . 517
 T. B. 169, 198, 304, 533, 534
 584, 585, 616
 T. G., Mrs. 248
 Thing, D. H. 361, 570, 612
 Thurston, D. B. 199
 Tolman, D. L. 584
 Tobacco Grower . . . 71
 Tracy, Chas. K. 319
 True, O. W. 26, 378, 394
 576
 T. S. F. 256, 600
- V.** 97
 Vilas, W. R. 232
 Vogt, Susie C. 615
- W.** 70, 88, 119, 288
 Walker, I. R. 354
 Walter, Geo. 630
 Watkins, S. T. 289
 W. B. 246
 W. E. A. 56
 Webber, T. L. 630
 Whatmore, John 71, 72, 104
 147, 163, 290, 358, 518
 Whatmore, Mrs. Mary . 171
 Wheeler, George F. . . 273
 White, Henry B. 320
 White, W. H. 15, 64, 111
 164, 292, 243, 263, 315, 352
 354, 542, 552, 597, 646
 W. H. W. 376, 507
 W. H. G. 238, 259, 382, 515
 563, 632
 Williams, Edward . . . 278
 W. M. T. 148
 Woodbury, L. 180
- Y.** 24
 Young Farmer, a . . . 117, 146, 277, 286
 Young Man 69
- Z.** 381
 Zen 171, 231
 Z. E. J. 98, 620

THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES.

Boston, January, 1871.

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MONTHLY.

SIMON BROWN, } EDITORS.
S. FLETCHER, }

THOUGHTS SUGGESTED BY THE IN-COMING YEAR.

Gently as the Bliès shed their leaves,
When summer days are fair,
The feathery snow comes floating down,
Like blossoms on the air;
And o'er the world like angel's wing
Unfolding soft and white,
It broods above the brown sere earth,
And fills with forms of light
The dead and desolate domain,
Where Winter holds his iron reign.



JANUARY, 1871!

All hail, though thou comest in wintry drapery, in short, dark days, in drifting snows and threatening clouds! Welcome, welcome, art thou to our New England Homes and Hearth-stones. Thy coming has been anticipated, and well-

stored collars and larders, barns and granaries, and curling smokes from thousands of chimneys, all prove

that the New England farmer "takes Time by the forelock" and is a provident man.

Cheered by the bountiful harvests of the past, and the new aids coming to alleviate his

labor, which science and art are constantly presenting, he will enter upon this new division and starting point in Time, with fresh determinations to improve both the soil and the mind in a greater degree than ever before. He will make the very name of *January*—meaning two-faced, "looking before and after,"—indicate the reflective propensities which she encourages, and which, when duly exercised, cannot fail to lead to good.

Every first of January that we arrive at, says an amiable writer, is an imaginary milestone on the turnpike track of human life: at once a resting-place for thought and meditation, and a starting point for fresh exertion in the performance of our journey. The man who does not at least *propose to himself* to be better this year than he was last, must be either very good or very bad indeed! And only to *propose* to be better, is something; if nothing else, it is an acknowledgment of our *need* to be so,—which is the first step towards amendment. But, in fact, to propose to oneself to do well, is in some sort to do well, positively; for there is no such thing as a stationary point in human endeavors; he who is not worse to-day than he was yesterday, is better; and he who is not better, is worse.

This will apply not only to moral duties, but to all the practical duties of life; to every action, every act and effort of life.

What a happy influence does *January* exercise on all the rest of the Year, by the famil-

meetings she brings about, and by the kindling and renewing of the social affections that grow out of, and are chiefly dependent on these. And what sweet remembrances and associations does she not scatter before her, through all the time to come, by her gifts—the “new-year’s gifts.” Offerings of the affections to the affections—of the heart to the heart.

How happy ought we to be in the liberty of speech, action and conscience, and the free pursuit of happiness! In the exemption from cruel wars which, in other lands, are devastating some of the fairest portions of the earth, crushing the efforts of genius, destroying the finest works of art, breaking up homes of the aged, sick, and defenceless, and casting them upon the pitiless world. The beautiful villas which so lately adorned the fields of sunny France, have become the charnel-houses of the slain, and echo only the groans of the dying or the wails of mourners who go about the streets. When will men

—hang the trumpet in the hall
And study war no more?”

In the light of *progressive science*, too, how much there is to encourage the farmer in his healthful and enviable position. The possession of truth will confer happiness, not the possession of mutable and perishing things. A more accurate knowledge of the elements with which he must deal, and of their operation upon the materials which he is constantly handling, and which are indispensable to life itself, are of infinitely more importance than to amass property beyond a competence to secure the necessary comforts of life. “Many a man contracts his spirits upon the enlargement of his fortune, and is the more empty for being full.”

As the farmer labors for future harvests in his physical endeavors, so should he labor for that future harvest of transcendent purity and truth, which will bring permanent peace and joy. In this view, let us introduce to him what the celebrated and good Dr. Dick says in regard to the little understood and much-abused word, *Science*:—

“Science is nothing else,” he says, than an investigation of the divine perfections and operations as displayed in the economy of the universe; and we have every ground to conclude, both from reason and revelation, that such investigations will be carried forward on a more enlarged scale, in the future world, where the intellectual powers, and the noblest passions which now impede their operations will become more vigorous and

expansive, and a more extensive scene of divine operation be presented to the view.”

No other avocation affords more favorable opportunities for the mingling of labor and study, than that of the farmer. Some affect to think that labor of the hands is incompatible with labor of the head. Undoubtedly it is, if in an inordinate degree. The powers of body and mind must preserve a proper balance. The truth in relation to this lies in the pithy remark of Sir John Ruskin, who said that “it is only by labor that thought can be made healthy, and only by thought that labor can be made happy.”

The position of the farmer is comparatively an isolated one. Not many can own farms in or near villages. They must, therefore, form associations of one kind or another, which will call them together. Here the interests of their own calling, or the moving events of the day may be discussed, after the interchange of friendly congratulations. Under our congenial laws, it is their privilege to discuss the propriety of repealing revenue bills, or the annexation of San Domingo to our *little* domain; and it is their voice which will greatly affect the decision upon them in Congress. It is a duty to be enlightened upon, and interested in the affairs of the Republic.

In his retirement at St. Helena, Bonaparte uttered many truths; one of them was, that “The only true way of appreciating and gaining a thorough knowledge of mankind, is by trying, and associating with them.”

And now, kind reader, as we welcome in the New Year, we gladly tender you sincere acknowledgments for your good company, your valuable contributions in promoting the successes and amenities of rural life, and your friendly counsel and support. No special change is contemplated in the course which the NEW ENGLAND FARMER has so long and so steadily pursued. If any improvements can be suggested to increase its value, the liberal support of its patrons will justify their adoption at once. Its columns will bear a fair and inviting impress, while they are conservative, but progressive, as new light dawns upon the great agricultural art.

—Hog cholera is causing the farmers great losses in the vicinity of Springfield, Ill. One farmer on Lick creek has lost seventy-nine hogs from this disease within a few days, and other losses are reported.

For the New England Farmer.

THE GARDEN IN JANUARY.

Again are we permitted to greet the ever attentive readers of the NEW ENGLAND FARMER'S Garden Calendar with a "Happy New Year." Although the past summer was one of extreme heat, and in some sections, of drought, yet the good gardener received abundant reward for all his labor. Like all others, the past season has its lessons. What lessons, you ask? Have your eyes been shut, that you have not been able to draw any lesson from your experience in the garden? Have you not received a lesson on the economy, in a domestic point of view, of a good garden? A kind Providence has bestowed upon you health of body and peace of mind, the greatest blessings we are permitted to enjoy here below. Did you ever think what a prominent part the culture of and the supply from the garden had in bringing these about? Let us then look over the experiences of the past season and profit from their teachings. If we have had a good garden, with a fair supply of fresh vegetables, let us not be satisfied short of a *very* good garden and an *abundant* supply of all it has heretofore produced, with the addition of some other choice and desirable product.

Having always been accustomed to farm life, I am well aware of the too general feeling of farmers in relation to the care of a garden. They highly enjoy the products of a good garden, but there is too much of the feeling that its care is "knitting-work business." The comparison is not bad, for a large share of the work in a garden can be done—like woman's knitting—at odd spells; it can be taken up and laid down as circumstances require. Now we know that after having been in the field and tired ourselves with its heavy work, or before going to a hard day's work, we are reluctant to occupy any spare time, which we desire for rest, in doing any kind of labor, however light. But should all the labor for the garden be thus filched from that of the field? If the garden claims a fixed portion of the territory of the farm, may it not also claim a fixed portion of its labor? Admitting that on the farm we work for profit, the question arises, what is profit? A penny saved is two pence earned, says the proverb; and we all know that it is rather what we save than what we earn that constitutes wealth. On this principle, I urge farmers to cultivate a garden. Its productions relieve us largely from dependence on the market or field; it saves us from eating too freely of meat or flesh, at a season when other food is more conducive to health, and meat is less required to sustain strength and animal heat.

Not only should every farmer have a vegetable garden, but there should be space devoted to small fruits, such as—strawberries, raspberries, currants, gooseberries, grapes, and if

possible a few blackberries. No one of these need occupy much space in order to furnish a family supply, if well cultivated.

If the present garden is not of sufficient size to produce the necessary vegetables and other desirable products, enlarge it, no matter if it does take in a little of that best piece of mowing. Any time during the month, when the ground is free of snow, will be a good time to cart out barn yard manure, and spread over the surface of any new garden spot, to be ploughed under as soon as the frost is out and the ground can be worked.

If water stands on the surface of the garden, drain it off by surface ditches, but drain it on to your own land, not into the street, if possible. Often a short cut of a few feet will drain a considerable garden and save a large amount of injury.

See that the fences are all up and the gates shut, to keep off stray animals. If you have not already a good fence about the garden, now is a leisure time to get the stuff together ready to build in spring. Seasoned posts will last longer than unseasoned. Stakes, bean poles, pea brush, &c., that may be needed the coming season, are much better prepared during the winter than when wanted.

See that the manure pile and compost heap keep on increasing in bulk, as well as in richness. A great saving may be made, in the aggregate, from saving in little things—the world is made up of atoms. Save the wood ashes, bones, slops and wash from the house, wash room, &c., hen house and roost, which, composted with barn soil, muck, &c., will go far towards fertilizing the garden. So also the privy, managed on the deodorizing principle of the "Earth Closet."

Look over the garden seeds and see if they are all safe and in good condition; make a note of any that may be wanted, ready to order from seed growers at the earliest day, as early orders are best served.

Bright, pleasant weather, as well as extreme cold or changeable, will necessitate a close watch and care of cold frames and their contents. The great object is to keep the plants in a dormant condition, and to do this we must keep the temperature uniformly low, by shading, ventilation and covering the glass and plants.

Look after the fruit and ornamental trees, to see that the mice are not girdling them. Any girdled trees may be saved by an immediate covering of the wounds with a solution of gum shellac in alcohol, or you may take a thick coat of clay, in a plastic state, and bind on with cloth. I have known valuable pear trees thus saved, when girdled by rabbits. Should there be snows or ice to load down young trees and shrubs, carefully shake it off. Great care will be necessary not to break the trees or branches, as they are very brittle when frozen.

W. H. WHITE.

South Windsor, Conn., 1870.

STOCK COMING TO THE BARN.

At a meeting, Dec. 15, of the Westminster, Vt., Farmers' Club, the management of farm stock when coming to the barn for the winter, was discussed, and reported in the *Bellows Falls Times*. The general opinion was that stock was kept out too long. Mr. O. L. Fisher wished there was a law to compel farmers to take up their stock by the first of November. Mr. N. Pierce said we have such a law, and the penalty for its violation is poor stock and thin wallets, enforced without constables or police officers.

In reply to a question whether meal or grain should be fed at this season, Dea. McNeil said, he did not believe in graining high, but at this season the flesh should be kept on; cows especially must not be allowed to lose flesh; they should be fed *at any and all times* when not able to readily obtain their own proper sustenance. He had fed this six weeks and he feeds good hay, all they want. His stock is limited to cows; he feeds daily from two to four quarts of meal, half cob corn meal and half shorts, to a cow, varying according to the demands of different cows. Others agreed on this principle. The president, N. G. Pierce said, "when my cows begin to fall off in their milk, I begin to feed." He thought it might be profitable to visit each others yards and take a look at the stock and make inquiry how such and such creatures are fed. Mr. J. B. Morse said "If I feed meal in any quantity or to any creature I scald it, and if convenient sometime before feeding."

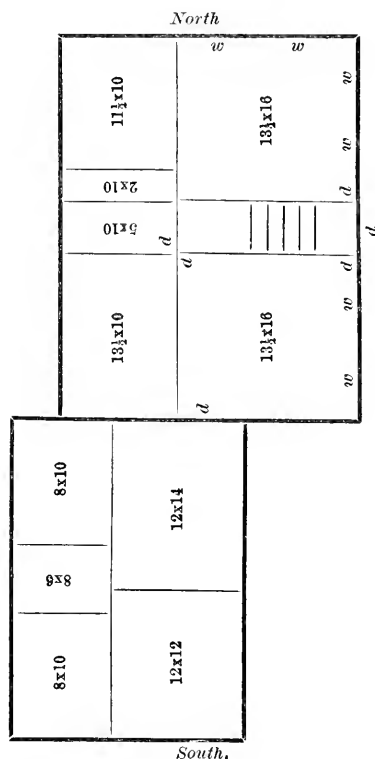
N. G. Pierce said late feeding injured the land, by not leaving an aftermath upon the ground to enrich it. Some think sheep ought to run out later, on account of its being more adapted to their nature to give them a short winter, yet I think we injure our pastures in this practice.

A COUNTRY FARM HOUSE.

Objections are sometimes made to the high cost and ornate style of most of the plans of houses furnished by professional architects to agricultural papers. During a recent visit among the mountain towns of Vermont, we had some conversation with a carpenter in Plymouth, Vt., who was finishing a dwelling that he had erected the past season for a young farmer of that town. Our friend said that there were few houses in town that cost as high as two thousand dollars, but that one farmer was building a house at The Notch which he understood would cost \$3000. Most of the farm houses ~~not~~ cost over five to ten hundred, though from in town would the fact that farmers generally furnish lumber, and do a portion of the work themselves, it was difficult to estimate the actual expense of building. For the house on which he was at work, the owner had cut the lumber, including native black cherry for window casing, from his own land, in the winter season and col-

lected together many of the other materials at odd jobs, including the lime for plastering, &c., which was made from a quarry on the farm.

After a little reflection, however, the carpenter said that at present prices of material and labor in that locality, he would contract to build another house like the one in hand, and furnish every thing himself, for from \$1200 to \$1300. He gave us the following plan and dimensions of this house, which is certainly of the better class of farm houses in this mountainous section.



The main part, 26 by 32 feet, is a story-and-a-half, and affords comfortable chamber room. A little more than one-half of this second floor is finished off for three bed-rooms, while the smaller half is left unfinished as a store-room. The ell, 20 by 26 feet, is only a single story.

We have not followed the example of professional architects in designating the several rooms as "parlor," "sitting room," "kitchen," "dining room," &c., partly because, in this case, the owner proposes to rent the ell to the builder for the present, and confine himself and small family to the main part. Nor were all the doors and windows indicated on our rough plan, and as we do not remember the exact location of some of them, we have not attempted to mark their position. The access to bed-rooms, pantries and closets was, however, quite convenient and handy.

**CUTTING THE FODDER,
AND USING GRAIN, IN TWO OR THREE WAYS.**



OUR own practice in preparing feed for thirty head of stock,—one-half being horses,—is to cut all the fodder, straw, meadow hay, if we have any, cornstalks, and best hay. This is cut by a horse power standing in the barn floor. This occupies from one to two hours twice a week, to cut enough for the thirty head of stock.

A portion of this mass, enough for feeding twenty-four hours, is spread upon the barn floor, sprinkled with water, a very little salt, and strewed with such grain as is used; this is principally shorts. Layer after layer is laid on in this way until a sufficient amount is collected to last twenty-four hours. The heap stands twelve hours, is then thoroughly turned over and remains twelve hours more, when it is ready to be fed out. If the barn in which the heap is made up is a moderately warm one, all the fodder will by this time be impregnated with the taste of the grain and aroma of the good hay. It will also be softened, so as to be easily masticated by the animals, and they will eat the whole with great relish. Or, if any be left, it will be only the joints of corn stalks which are not softened, or some coarse plants of woody fibre. A heap thus prepared should always be kept on hand, so that each heap may stand at least twenty-four hours.

These details may seem to require a slow, irksome, and somewhat expensive process as to the time required. But they will not be found so in practice when the *system*—for it must be a *system*,—is once fairly established. The horse power and cutter will be somewhat expensive to start with, but with good care, both will last for many years. Where thirty or forty head of stock are to be fed, we have no doubt the cost of both would be saved by their use in two or three years.

If the stock consists of ten or fifteen head, only, a good hand hay cutter will answer the purpose, and the horse power may be dispensed with.

In our New England winters there are many days too inclement for out-door labor, and these may be occupied in the barn in cutting the fodder and storing it away in empty spaces for use when mild weather calls the help into field or forest.

An ample experience for many years convinces us that stock can be kept enough *cheaper* to more than pay the cost of labor in preparing the fodder, and that it will perform more labor, produce more milk, or gain more in growth, than it will if fed on the coarse food. An experiment with twelve milch cows through an entire winter gave us the most gratifying results. The cows yielded more milk, kept in good condition, and at one-fourth less cost than when fed in the usual way. Horses thrive as well as neat stock under such feeding.

In order to work on this system, the barn must be sufficiently warm to prevent the heap that is mixed up from freezing; and this ought to be secured in any case, as an economical measure in the care of the cattle. An old sail cloth, cast-off woolen blankets, or any similar material, thrown over the heap, will greatly tend to prevent freezing.

Another plan, and one that is gaining in popularity, is that of

Steaming Food for Stock.

This process will cost much more for the fixtures necessary to be used, and will require much more exact care than cutting and soaking the fodder. This care, however, will make every pound of food tell with the fullest effect in the production of meat, milk, or strength. We have visited several farms where the practice of steaming is adopted, found the system approved, and the stock looking well. The product of milk in the cows was very considerably increased; the horses were sleek and strong and the young cattle with soft, loose skins, and having every way a thrifty appearance.

The most thorough example of steaming food for stock is afforded in the case of Mr. E. W. Stewart, of North Evans, N. Y., in which he details his experience of ten years in steaming food for a large stock of cattle and horses, and states why steaming is beneficial.

1. He says it renders mouldy hay, straw, and corn-stalks sweet and palatable.

2. It diffuses the odor of the shorts, corn-meal, oil-meal, carrots, or whatever is mixed with the feed, through the whole mass.

3. It softens the tough fibre of the dry corn-stalk, rye-straw, and other hard material, rendering it almost like green succulent food, and easily masticated and digested by the animal.

4. It enables the feeder to turn every thing raised into food for the stock, without lessening the value of his manure. Indeed, the manure made from steamed food decomposes more readily, and is therefore more valuable than when used in a fresh state. Manure so made is always ready for use, and is regarded by those who have used it as much more valuable, for the same bulk, than that made from uncooked food.

5. It cures incipient heaves in horses; arrests a cough, alleviates constipation, and seems to have all the good influences of grass,—the natural food of animals.

6. It produces a marked difference in the appearance of the animal, at once causing the coat to become smooth and of a brighter color; regulates the digestion, so that the animal is more quiet and contented; enables fattening stock to eat their food with less labor, and to fatten them in one-third less time than on uncooked food. It gives working animals time to eat all that is necessary for them in the intervals of labor, which is important with working horses.

7. It saves, he says, at least *one-third* of the food. He found two bushels of cut and cooked hay to satisfy cows as well as *three* bushels of uncooked hay, and the manure in the case of the uncooked hay contained much the most fibrous matter.

In the case of the Messrs. S. & D. Wells, of Wethersfield, Ct., they think the steaming adds one-half to the feeding value of fodder.

Governor Boutwell,—now Secretary of the Treasury,—has for several years practiced cutting the fodder, at his farm in Groton, Mass., throwing it into a large chest made for the purpose, and letting boiling water upon it; then cover tight, stand twelve hours and feed it out. In this way he found the cattle ate all clean, as meal of some kind had been added, and had flavored the whole. The cows yielded milk freely, and large quantities

of the finest butter were made from it, extending, we are informed, far into the winter season.

Boilers are now constructed well adapted to steaming food for stock, so that the whole apparatus may be set in motion at a very moderate cost. Prindle's is one which we have seen in use. It is compact, easily managed, requires but little fuel, is safe, and its cost so moderate as to come within the means of most farmers keeping a dozen head of cattle.

It will be economical for those about setting up a steamer, to visit some already in use, and spending a day by it to learn how it is constructed, and how to "run it" when ready for use.

The present high prices of hay may prove an opportunity to thousands of farmers to turn some portion of it into cash, and at the same time keep the usual amount of stock in good condition, by being more careful and systematic in feeding out less valuable fodder.

Nothing, short of actual experience, will convince the farmer of the great saving which may be effected by resorting to some of the modes detailed above. Numerous experiments, we hope, will be made in these matters, and the results reported to the FARMER, to be published for the benefit of others.

GROWTH OF CEREALS.

At the last meeting of the British Association, Mr. F. F. Hallett read a paper on the "Law of Development in Cereals." His experience showed him several years ago, that grain and especially wheat, was injured by being planted too closely. He found a wheat plant would increase above the ground in proportion as its roots had room to develop, and that the roots might be hindered by being in contact with the roots of another plant. He continued a series of experiments, planting one kernel of wheat only, and succeeded so well in improving the method of cultivation as to raise wheat whose ears contained 123 grains. In the course of his investigations Mr. Hallett made other discoveries with regard to the growth of cereals, which he sums up as follows:—

1. Every fully developed plant, whether of wheat, oats or barley, presents one ear superior in productive power to any of the rest on that plant.

2. Every such plant contains one grain, which upon trial, proves more productive than any other.

3. The best grain in a given plant is found in its best ear.

4. The superior vigor of this grain is transmissible in different degrees to its progeny.

5. By repeated careful selection the superiority is accumulated.

6. The improvement which is first raised gradually after a series of years is diminished in amount, and eventually so far arrested, that practically speaking, a limit to improvement in the desired quality is reached.

7. By still continuing to select, the improvement is maintained, and practically a fixed type is the result.

PREMIUM WHEAT CROP.

Mr. S. Kilbreth, of Manchester, Maine, makes the following statement in the *Maine Farmer* of the crop of wheat on which he was awarded the first premium at the late fair of the Kennebec Agricultural Society:—

The land on which my wheat grew was a deep, gravelly loam, planted the previous year, part to corn and part to potatoes. Upon the part planted to potatoes, after harvesting I spread six cart-loads of barn manure. Upon the part planted to corn, I put one shovelful of compost manure in each hill of corn; ploughed and pulverized the ground in the fall; ploughed again in the spring, and harrowed before sowing. Sowed the 5th of May two bushels of Java wheat; harrowed once, and spread upon the piece one hundred bushels of leached ashes; then harrowed again and rolled it. Harvested about the 10th of August; threshed the first week in September 22½ bushels of wheat.

Dr.

3 cords of manure	\$12 00
100 bushels leached ashes	15 00
Plowing land	4 00
2 bushels wheat	4 00
Sowing	2 00
Harvesting	4 00
Threshing	4 00
Applying ashes, &c	5 00
Total	\$30 00

Cr.

22½ bush wheat at \$2.50 per bush	\$56 25
1 ton of straw	8 00
Manure and ashes left on hand	10 00
Total	\$74 25
Credit	74 25
Debt	50 00
Profit	\$24 25

ANOTHER PORK SCARE.—The Pottsdam, N. Y., *Courier and Freeman* says that on slaughtering a sow of 450 pounds, fattened by Mr. H. D. French of that town, a dark colored streak was noticed extending under the back bone through the loin, in the land, which on close examination proved to contain dark brown worms, from three-eighths to nearly one inch in length, with heads about the size of a pin's head, with slim tapering bodies. Nothing of the kind was perceptible in the lean meat, but they were found in clean looking parts of the land. The hog was purchased last spring from a drove of western pigs.

CUTTING HERDSGRASS IN BLOSSOM.—At a recent discussion of "Our Hay Crop," by the Keene, N. H., Farmers' Club, most of the speakers favored early cutting, and two days dry lag. The plan of plough-

ing in August, manuring and seeding at once with herdsgrass, and sowing clover in the spring, was practiced by several. Mr. Williams used twelve quarts of herdsgrass and five pounds of clover seed; Mr. Twitchell sixteen quarts herdsgrass, half bushel redtop, and six pounds of clover. Mr. M. B. Foster said "I would cut herdsgrass before it was in blossom or let it stand till the seed is partially matured. I would never cut it while in blossom on account of the injurious effects of the dust that will be in the hay."

PLAIN TALK.—Mr. D. A. Compton, of Hawley, Pa., was present at a late session of the New York Institute Farmers' Club, and said, "It seems to me that men who ought to know better—men whose names carry some weight in matters of agriculture—do a great wrong in assisting the rascally manufacturer or vender in swindling the honest farmer by so highly recommending certain mechanical fizzes."

RHEUMATISM IN SHEEP.—This disease consists in a peculiar inflammation of the muscles of the body, very frequently causing considerable pain when they are called into action. It is usually caused by exposure to cold, and sometimes shifts from one foot to another, occasionally degenerating into a slow or chronic form, and attacking the sinews, ligaments, and joints, as well as the muscles. The neck and loins are the parts most frequently attacked, either separately or combined. The former affection causes the head to be carried in a bent position, and the latter produces considerable stiffness and weakness of the loins. The treatment should consist in removing the animal to a comfortable place, giving an active purgative, such as two ounces of epsom salts dissolved in warm water, with a drachm of ginger and half an ounce of spirits of nitrous ether. A stimulant, such as hartshorn and oil, or opodelloc, should be well rubbed over the affected part; and if the disease assumes a chronic form, a seton should be inserted near the part.—*Dr. N. H. Paaren, in Prairie Farmer.*

OLD AND NEW PLACES FOR RAISING FOWLS.—During 1869, I raised about 150 fowls on an old place where fowls had been raised more or less, for years. The consequence was, I lost at least one-third of all hatched, by the much dreaded gapes. I tried nearly all the remedies recommended, but my only success was in removing the worms with a feather trimmed for the purpose. This year I am on a new place where no fowls were ever kept. I set my first hen on the 29th of January; I have now about 140 chicks out, some one-third grown, and not a single case of gapes or other sickness yet; treatment the same in both years.—*Poultry Bulletin.*

For the New England Farmer.

SURFACE WATER FOR CATTLE.

A correspondent "J." in the *FARMER* for Dec. 31, recommends securing water for cattle in pastures, from the collections of rain and snow in low places.

I have a field which I wish to pasture, but which must be provided with water, either by digging a well at considerable expense, or by some such means as building a cistern to obtain water, as "J." recommends. Now I would inquire whether water thus secured, would continue to remain good, healthy, and palatable, for cows giving milk, through the pasturing season. F.

Franklin, Mass., Dec., 1870.

REMARKS BY J.—In answer to the above, which the editor of the *FARMER* has sent to me, I confidently say yes, it would remain good, healthy and palatable. The reservoir should be covered either by a roof or by cross timbers covered by a plank floor. This would keep the heating influence of the sun from the water, and keep it cool. When stagnant water is exposed to the sun, a green, stringy vegetable growth forms, that looks disagreeable. Then, if it is covered, the cattle will be kept out of it, as well as flies and bugs.

I should prefer to have it enclosed, and a roof over it, if in the pasture, so as to keep cattle from above it. To secure it from frost in winter, it would be advisable to cover the plank before mentioned with earth.

What impure water cows often drink in dry seasons! Many herds have the slow and last drainings of swamp lands; water charged with a variety of mineral salts and rotting forest leaves and other vegetable substances,—a regular herb tea! The water of springs as they run slowly in mid-summer over various rocks and soils is impure and brackish.

Within a year my uncle brought the water from a distant spring, to his house. While the season is wet it does well, but in the drought of last summer it showed strongly of sulphur, both to the smell and taste, and was seldom offered to a stranger, without an apology. The water from rain and snow is nearly pure, and if gathered in cement cisterns when it flows copiously, it cannot be very impure, even if it runs a short distance on the ground, over a good turf.

How large must a cistern be to hold enough to last ten cows six months? At my barn I have a circular cistern eight feet in diameter and seven feet deep, made by cementing upon the earth, with a flat cover of plank, upon ash stringers. I watered seven head of cattle there two and a half months last winter. I have a brother who has a cistern made in clayey ground, cemented inside of plank, about the same capacity as mine. It furnishes water for five or six cattle and a span of horses most of the winter. Near his house runs a brook early in spring and late in fall, but is dry in mid-summer and mid-winter. In the bed of this brook he dug a pit about six feet square and cemented it, and put up plank around its sides

and I think packed clay outside the plank. This, with the cistern, is depended upon for water, but I cannot tell the exact time each will furnish water for stock.

For a permanent supply I would dig a pit ten feet wide and from twenty to thirty feet long and from eight to ten feet deep. The bottom and ends might be oval, so that most of it could be dug with a team and a common road scraper. Finish the inside tolerably smooth, and three barrels of cement, costing from nine to twelve dollars will coat it over water tight. Before the cementing is done, timbers should be laid across the narrowest way and a plank floor laid, and then the edges of the cistern beneath should be cemented flush up to the plank so that mice, frogs, snakes, and other vermin can be kept out. Make a wire screen for the entrance, so that leaves shall be kept out of the water.

In blue clay soil I should try such a pit without any cement, and believe the supply of water would be permanent.

I have watered my cattle several winters in a hole from which I drew muck, and the water continues in good supply all winter. In this case, however, the land for an acre or so around the hole is saturated with water which helps keep up the supply.

I am told that the Pacific Railroad supplies its engines from tanks that are filled in the wet season, and that at the West surface water is collected for cattle, in the same way; but my impression is that many pools there are not covered, consequently the sun shines upon them, and the cattle poach up the sides into deep mud and add their own droppings to the stagnant mass.

In some cases a pit like the one here suggested would add hundreds of dollars to the value of a farm, and be a very cheap way of providing water. My neighbor is to-day drawing muck to his barn-yard, that he drew out of a pit last summer, which has furnished water for eight head of young cattle,—not surface water, but the moisture that leached in from the swamp around. The cattle have done well. This pit was not prepared in any way; a pool formed where the muck was dug out.

J.

FOOT-ROT IN CATTLE.—A correspondent furnishes the *Mirror and Farmer*, Manchester, N. H., the following remedy for this disease:—Put them in a place where you can handle their feet, and then take half a pint of common tar and as much soft soap, put them into any vessel, and heat them together until they get thoroughly mixed; then let it cool down some, but not too much; put it on the parts affected quite hot, and in seven cases out of ten it will effect a cure, but if it does not, repeat the soap and tar, which will be sufficient to cure any case that I ever saw, in a few days.

QUESTIONS TO FARMERS.

For several years past New Hampshire has had no board of agriculture, and consequently there has been no official report on the progress of this important interest of the State. Last year a Board was organized, and it has entered vigorously upon the discharge of its duties. The Secretary, J. O. Adams, has issued a circular designed to call out the information necessary to enable him to make a report that will be valuable to farmers, and creditable to the State. Statements of facts are requested on the following specified topics, with such suggestions as may occur to the minds of those who reply.

1. Give the names of some of the agricultural men in your town, with the specialties to which they give attention.

2. Report the harvest of the various crops, compared with ordinary years, naming each crop specially.

3. What are the chief sources of income to farmers and other classes in your town?

4. Have you a Farmers' Club in the town or neighborhood? If so, report names of officers. If not, will you take steps to organize one, consulting, if you wish, the member of the Board in your county, in regard to it?

5. Give the names of such insects as are injurious to vegetation in your section, and state what means are used to destroy them or prevent their depredations.

6. What commercial manures are used in your vicinity? How are they applied, and with what advantages?

7. What new or improved implements for farming have been introduced within a period of twenty years, and what advantages have resulted therefrom?

8. Are any kinds of blood-stock found among your farmers? If so, what owners and what breeds can you name? Also, inform us as to the advance in the price of horses, neat stock, &c., within twenty years. Give the names and residences of the owners of stock horses.

9. Is the product of corn, potatoes, and other farm products greater or less, per acre, than it was ten years ago? If either, how much?

10. Do your farmers attend the State and County Fairs, or other fairs, and make exhibition of stock or farm products? If not, why?

11. Do the farmers in your section take agricultural papers, read agricultural books, and study to improve their methods of cultivation?

12. Do your farmers keep farm accounts, make experiments and profit from the results?

The secretary says he was authorized at a recent meeting of the Board to "issue a circular to such men as he has reason to believe are *interested* in the agricultural prosperity of the State." And we note the fact that the circular of Secretary Adams appears to be addressed to those who are "*interested*" in agriculture, rather than those who are *engaged* in that branch of industry, not in a spirit of verbal criticism, but from a conviction that just here we discover the missing link in the chain of sympathy which should bind our Boards of agriculture with the hordes of agriculturists. That there is a break somewhere in this chain has been acknowledged and regretted by nearly all the managers of State Boards wherever such organizations exist. The complaint is almost uni-

versal that those who are actually engaged in agriculture do not co-operate with those who are "*interested*" in that pursuit. Meetings are held by the latter, but the former fail to attend. Discussions are appointed, but those actually engaged in farming fail to respond to the arguments of those "*interested* in agriculture."

It is much easier to confess the unpleasant fact of this want of co-operation between State Boards and State farmers than it is to prescribe a remedy. But we would suggest that as far as possible all communication between them should be direct and personal, without the intervention of any middlemen, however eloquent, active or "*interested*" they may be. Instead of asking "*Do your farmers,*" or "*Do the farmers in your section?*" "*why not inquire, directly, Do you, Sir, or Do those carrying on the farms adjoining yours?*"

When farmers were not in the habit of reading and writing, but depended on their minister and the Squire for the performance of these exercises, a more roundabout course might have been advisable to obtain information, but now we do not think it is necessary. At present, the men who are practically engaged in agriculture are able to speak and write *when* they feel themselves called upon to do so, and *where* they think it is proper for them to make the attempt. Why are not the meetings of Boards of Agriculture regarded by farmers as such time and place? And why should not official circulars be addressed to them directly and personally?

For the New England Farmer.

THE SHARP STICKS---BEAVERS AND MUCK BEDS.

The sticks found under a muck bed in New Hampshire, which were mentioned in a late number of the FARMER were undoubtedly sharpened by the teeth of beavers. There are in many localities in the Eastern States, and especially in New England, traces of the works of the beaver. Many of their dams which I have seen in Vermont are still in a good state of preservation; and by digging into them plenty of the sharp, pointed sticks mentioned by your correspondent can be found.

A marshy place through which a small stream runs, and which is covered with a growth of alders and willows, is generally selected by the beavers for their operations. A dam is thrown across the stream, often in zigzag form, and a shallow pond made which serves as a receptacle for their food, cheap transportation, and shelter from their enemies, also, a fish preserve of the best kind.

These ponds gradually fill, in the course of time, with a vegetable deposit brought in by the stream and other agencies, and the sticks are thus covered, sometimes many feet, if the pond had considerable depth.

Having seen the operations of many colonies of beavers in the Rocky Mountains, on

the head waters of the Platte and Arkansas rivers, I will give a brief account of the workings of a colony, which I watched with no little interest, on Clear Creek, which is quite a large and rapid stream, and a tributary of the Platte. Its northern bank, at the place selected by the beavers, was about three feet above the water. Between the bank of the stream and the base of a mountain—some fifty or seventy-five yards distant—was a basin or depression of the ground, two or three acres in area, covered with a growth of what is called there the quaking aspen tree, similar to our New England poplar. This ground was, in the lowest place, perhaps two feet below the bank of the stream, and admirably adapted to their wants.

In filling this basin with water they displayed engineering skill truly surprising. They went up the stream some thirty or forty yards to a point higher than the ground they wished to flow, and dug a ditch to the basin through which the water flowed and formed the pond. All the low places at the lower end of the pond where the water would be likely to escape was protected by short dams made of small sticks, mud, leaves, &c. Small ditches were also dug radiating from the basin, among the timber, to facilitate transportation—on the internal improvement plan.

The engineering being completed, the falling of the timber was rapid and systematic. Trees were levelled of all sizes, from three to fourteen inches in diameter—cut up into blocks or sticks, from twelve to fifteen inches in length, floated through the canals into the pond, sunk and stuck fast to the bottom; but how sunk, I did not learn. The sticks were all conical in form at the ends, as they gnaw entirely around the wood, coming to a point in the centre, with the accuracy of an experienced wood chopper.

A house is built on the margin of the pond, but above high water, with subterranean passages leading into the water, through which they bring the billets of wood when wanted for food. After having eaten the bark therefrom, the wood is conveyed to the stream, where it floats away. The water is let into and out of the ponds at their pleasure, but in winter it freezes over, forming a secure depot for their food.

Hoping these remarks will be of interest to farmers who are "prospecting their musk mines," I have the honor to remain, yours truly,
PIKE'S PEAK.

Montpelier, Vt., Nov. 1, 1870.

For the New England Farmer.

PLOUGHING PASTURES.

The crop desired in a pasture is grass, and notwithstanding the great vitality of the many plants called grass, there are casualties that destroy them. Severe freezings, when the ground is bare; long continued drought; the

overflow of water, and the encroachments of other plants, such as moss, brakes, thistles, ox-eye daisy, raspberry bushes, &c., cause a pasture to yield less than it ought.

Sometimes it is advisable to replenish the stand of plants by sowing seed upon the turf; and with no further care an improvement is often visible. Where the seed is mixed with a good dressing of well rotted manure, and then harrowed in, the result in many cases is satisfactory; though the surface of a pasture, packed hard by the tread of cattle, is not the best seed bed. It is therefore frequently advisable to plough.

In ploughing a pasture to improve it, it should be well turned over and well worked with the harrow. It should not be cropped several years to exhaust its stores of fertility, but re-seed the first or second year with white clover, June grass and red top. As these grasses spread from their roots and also scatter their seed, they will soon make a thick turf, while Timothy is a stationary bulb, and red clover does not multiply itself by its root and is not a permanent plant.

In case moss, (Bear's wheat or Robin's wheat) and white daisy is crowding out the grass, plough only once, re-seeding the first year upon the inverted sod. Do not let the moss see day light again; but upon the inverted sod, well pulverized and dressed with fine manure, sow grain and grass seed; fence it from the cattle and harvest the grain and mow the grass the next year, if the land can be spared from pasture. If the land cannot be spared from pasture, it would perhaps be best to sow winter rye in September, with grass seed, keep the stock off in the fall and early in spring, and then let them graze the rye, that would in a degree protect the young grass and give more feed than was grown the year before.

If brakes and raspberry bushes or other shrubs are plenty, mow them in August, rake and burn them or otherwise dispose of them if they are so plenty as to clog the plough; then have a plough with all its front edges as sharp as possible, and plough the ground in the fall; then harrow it so that many roots will be exposed to the frosts of winter, which will kill many of them. For a smothering crop, buckwheat or India wheat is the best. Sow in June, after repeated harrowings during the spring, and sow no grass seed. In the fall plough and harrow again, and the following spring sow barley or oats and grass seed (unless the land needs another year's working to improve it,) but expect a volunteer crop of buckwheat with whatever is sown. As a first crop, a rank growing potato is about equal to India wheat, requiring more work and giving more profit.

Pasture is often ploughed to reduce or impoverish it. Sheep will so enrich a hill top that its rank grass will not be eaten, and a favorite resting place of cattle will soon be-

come too rich. In such cases, a monstrous crop can be grown a year or two, and the land re-seeded with advantage.

But ploughing pastures to reduce their fertility should be undertaken with caution, as it is decidedly better to have land too rich than too poor, and by a mixture of stock, most of the feed will be consumed.

If land is sandy or light and produces nearly nothing, turn it over and sow grass seed and rye and give a dressing of ashes, lime or composts.

In ploughing steep hill sides it is not advisable to finish them off with such a smoothness as pleases the eye, as in that case the water from showers and melting snows would run in haste to the bottom, leaving the soil still thirsty.

If good deep furrows were made horizontally along the hill sides to stop the descent of water, the yield of grass would be increased and the soil retain its fertility. J.

POTATOES FOR STOCK FEED.

Not one farmer in fifty realizes the true value of potatoes for stock. They are not only good for horses and cattle, but for hogs, calves, and poultry. When storing the present harvest, all those too small for table use, should be sorted out, kept, and judiciously fed. As to their value for milch cows, experiments have proved them to exceed that of almost every other root. Our readers will remember the statement made by Mr. R. A. Hunt, of Euclid, Ohio, some months ago, in regard to an experiment made. While thirty-six quarts of carrots were fed, thirty-two pounds of milk were received daily; with the same amount, one-half potatoes, thirty-six pounds of milk were given; and when potatoes were fed alone, forty pounds of milk were received. The roots were cut and fed raw three times a day, in messes of twelve quarts each.

The above is heavier feeding than is necessary, but very plainly shows the value of this vegetable as a milk producer. We believe, from experience, that they are also a profitable feed for the making of flesh, and the laying on of fat.

As a feed for calves, they make one of the very best substitutes for milk, containing as they do sixteen per cent. of starch in a natural state, and sixty per cent. in a dry state. They should be boiled as for table use, the skins removed, mashed thoroughly, and put into milk. Calves eat them in this way greedily, and thrive remarkably well. They will not cause scours as grain feed does, and tend to keep the appetite regular.

As a feed for horses in winter time, the potato possesses rare qualities as a regulator; they may be given once or twice a week, say, in messes of a few quarts. For hogs, they should be boiled, mashed and mixed in the

swill barrel with kitchen slops and milk, with a liberal quantity of wheat bran or corn meal added. This makes one of the cheapest as well as one of the best early feeds for swine, and puts them in a healthy and thriving condition for fattening, and wonderfully saves in pork making, when compared with corn-feeding alone.

Potatoes are profitable as a spring feed for sheep, and especially for ewes raising lambs; they give strength, health and appetite, and produce milk abundantly. For sheep, they should be cut and fed raw once a day. One of the best methods is to cut fine and mix with wheat bran or ground oats. As a choice, for breeding ewes in spring, we would prefer to have fifty per cent. of the feed potatoes, by weight, than to have the whole amount either oats or corn.

Potatoes boiled, mashed and mixed with corn meal, and fed hot, are excellent for chickens in winter. We know a poultry dealer who always uses this mixture, and for health of fowls and production of eggs, no henery, to our knowledge, excels his, according to the number of chickens kept.—*Ohio Farmer*.

EXTRACTS AND REPLIES.

FOUNDER AND THRUSH IN A HORSE.

Please tell me what are the causes and remedy of founder in a horse? Will Hungarian grass cause founder? What are the signs of founder? If you or any of the readers of the *NEW ENGLAND FARMER* will answer these questions, you will confer a great favor on me. What is the cause of thrush in horses' feet, and what will cure it?

East Taunton, Mass., 1870.

II.

REMARKS.—In the common language of horse-dealers, there are two kinds of founder; chest founder and founder of the feet. The latter is occasioned by bruising or straining the fleshy plates in the interior of the feet. They are full of blood-vessels and are liable to be inflamed when injured by violence, or long continued action in racing or hauling heavy loads. Founder is also brought on by leaving the animal in the cold after hard driving, or standing long with wet feet in cold weather. After a hard drive, some persons will place the horse in a warm stable, and in litter up to the knees. This sudden transition from cold to hot, will sometimes bring on an attack of acute founder.

When returned from such a drive, what the horse needs is thorough, gentle hand-rubbing, with woolen rags, or wisps of soft straw. This ought to be continued until the horse is nearly dry all over the body, and is comparatively cool. The circulation of the system is then equalized, and unless there has been some severe local strain on the laminae, or fleshy plates referred to, there will be little danger of founder.

Again, over-driving and exposure will sometimes bring on an attack of inflammation of the lungs; this, all at once, will change to inflamma-

tion of the feet, or similar affections in the bowels or eyes. It is always best to prevent these diseases by moderation in driving and loading, and in kind treatment of the animal in every thing.

The remedies are bleeding, soaking the feet in warm water, poultices, and sedative and cooling medicines. Sometimes blistering is resorted to. All these things, however, should be done under the advice of some surgeon or physician.

Thrush is usually occasioned by filth of one kind or another. It is a foul discharge from the cleft of the frog, and attended with disorganization of the horn. Sometimes, however, thrush springs from internal disease. If it arises from internal disease it commonly shows itself in the forefoot.

For a cure, remove the animal from all filth, pare away the frog till only sound horn remains, or the flesh is exposed, and tack on the shoe. Wash with chloride of zinc, three grains to an ounce of water, the cleft of the frog. When the stench has ceased, a little liquor of lead will perfect the cure.

We have had three cases of acute founder, and one case of thrush in our horses. The latter was easily managed; but the founder was incorrigible, and kept the poor animals tripping and stumbling along in an awkward and dangerous manner, always after the disease was upon them.

FERTILIZERS FOR APPLE TREES.

How shall I properly manure a piece of land on which are twelve large apple trees only fifteen feet apart, and the ground too much shaded to cultivate, although by top dressing it produces a good crop of grass? The trees seem to want more food than strip a top dressing, which is probably no more than the grass needs. What shall I apply this fall to afford a perceptible benefit to the trees?

Medford, Mass., Oct. 20, 1870. AMATEUR.

REMARKS.—Top dress liberally this fall, and upon that sow fifteen bushels of unleached wood ashes. If you cannot get the ashes, dissolve their equivalent of potash, and saturate loam or peat with it and sow upon the land.

WART OR TUMOR ON COLT.

I have a valuable three-year-old colt which has a wart just back of the fore leg, which has been there two years. Two months ago it commenced to mature and run a whitish substance, which was somewhat offensive in smell. It appears to be wholly in the skin, and has been gradually spreading. Immediate advice as to a cure will greatly oblige
A YOUNG FARMER.

Auburn, Me., Nov. 9, 1870.

REMARKS.—We fear you have something to deal with of a different character from an ordinary wart. You are probably familiar with the use of a string or cord, and of caustics for their removal. Equal quantities of spirits of turpentine and sulphuric acid, mixed thoroughly in a glass tumbler, and then put into a vial, may be applied with a feather once or twice a day to the roots of common warts, and it will gradually eat them off. From your description of the case, we doubt whether

either could be safely applied to your horse. If there is no veterinary surgeon in your neighborhood, we think it would be well to get the opinion of some regular doctor, after a personal examination. Mr. S. N. Tabor, of East Vassalboro', in your State, says he has been entirely successful in ridding horses of common warts by dosing the animal with chopped cedar boughs, given in his grain, also washing the warts in a strong decoction of cedar. But the one on your colt has been there so long, and is in such a condition that it will probably require skilful treatment.

COMPOST FOR TOP DRESSING.

I have a pile of muck which I wish to compost with chip dirt, lime, &c., as an experiment for top dressing. Will it be best to mix lime this fall or not till spring?

Will a compost of such materials for top dressing grass land pay? The soil is a yellow gravelly loam good for grass or corn. My idea is to apply the compost early in the spring and sow clover seed and thoroughly harrow the turf.

East Dover, Vt., Oct. 20, 1870. E. F. SHERMAN.

REMARKS.—Mix the whole immediately. If the compost is fine, and in proper condition apply it this fall, and sow the seed and brush-harrow in the spring. The carting can be done much better now than in the spring, and the rains will wash down the dressing among the roots of grass, and prepare it as food for the next crop.

SWELLED ANKLE OF A HORSE.

Last June I purchased a very valuable mare, and ever since I have noticed a slight swelling of one hind ankle on standing in the barn awhile, but which disappears after a little usage, or while running in the pasture. What is the cause, and what the remedy? A SUBSCRIBER.

Vassalboro', Me., Sept., 1870.

REMARKS.—Swellings are of so many different kinds, and result from so many different causes, that we are unable to answer the inquiries of our correspondent. The cause of the swelling must be ascertained before remedies can be prescribed further than the most simple ones.

SALTPETRE IN CREAM.

Your correspondent "S. O. J.," in the article on "Gilt-edged Butter," says Mrs. A. puts two heaping table spoonfuls of saltpetre in her three gallon cream jug; and that "this keeps the cream perfectly free from bitter taste, and does not harm the buttermilk in the least degree."

The italics are your correspondent's, and it is not my purpose to attempt to controvert the position; but I would like to have some of your scientific or professional readers do the public the kindness to inform us of the advantages and disadvantages of such an excessive use of that article. How does "S. O. J." know that it has been used for years without any deleterious effects? Arsenic, and nearly the whole range of poisons, narcotics and stimulants have been used for years, and in some instances, without apparent deleterious effect; but that only proves that the living system can in some degree adopt itself to unnatural conditions and circumstances.

After taking thirty-six pounds of butter out of the contents of a three gallon cream jug, the little

buttermilk that is left must be pretty heavily charged with the two heaping tablespoonfuls of saltpetre. Pretty good cows those four must be to make an average of one and four-fifths pound per day, after milk and cream were "used freely in the family."

O. S. BLISS.

Georgia, Vt., Nov. 7, 1870.

GRAFTING THE GRAPE VINE.

I have a grape vine which came from a raisin stone. It is six years old, very thrifty, but has never borne a grape. I wish to know if it can be grafted, and if so, how, and at what time? If you can tell, please give information through the columns of the NEW ENGLAND FARMER, and oblige a subscriber.

MRS. H. A. B.

West Windsor, Vt., Nov., 1870.

REMARKS.—The grape vine can be successfully grafted, though it is not commonly resorted to. The grafting is done at the root, as follows:—wait, in the spring, until the vine has pushed its first leaves to the size of a dime; clear away the earth from the stem and graft much as is done in apple grafting. Cover with a good body of grafting clay, crowded close to the wood, and then press the earth carefully but firmly around, leaving but one eye of the scion above the soil. The scion should have three or four eyes or buds, and a little of two year's old wood at the bottom of the cutting.

It is more convenient grafting if the vine is taken up, and then plant it again, but something is lost in growth.

HARD, OR CONTRACTED FEET, IN THE HORSE.

Please inform me what I shall do for a horse's feet that have become dry and hard, so that the horse is lame in consequence of it, as I suppose. I have tried bathing the feet with water, frequently, this summer, and thought I was taking a great deal of pains to keep the feet moist. I have even stuffed them with green cow manure; but all the things that I have tried do not seem to do any good. I have no books that treat upon such a subject wherein I can get information.

Is there not some kind of ointment in your knowledge that would be of value in such a case, to keep the feet in a moist state after they had been soaked out? Would not urine and salt mixed together, be a good wash to use in softening them? I wish to try some remedy different from what I have tried yet. Please inform me through the columns of the NEW ENGLAND FARMER, and by so doing you will oblige a

SUBSCRIBER.

Taunton, Mass., Oct. 28, 1870.

REMARKS.—The condition in which you describe the feet of your horse is not an uncommon one, and yet the cause and the cure are, to most of us, shrouded in mystery. A full third of all the horses we notice, "point" with the forefoot; that is, when stopping on the road, or in their stall, they reach out the fore foot and allow it to rest slightly on the toe. Frequently both feet are affected, and then the suffering animal changes every five or ten minutes, from one foot to the other, seemingly unwilling to bear his weight on either foot, and would not if he could avoid it. In such cases, the foot is thrown out of use, except when the horse is in actual motion, and would naturally decrease in size, as the human arm

would if held in a sling for an extended time. So the horse's foot, spared in travelling and "pointed" in the stable, obviously changes its shape. The quarters draw inward; the heels narrow; the frog hardens and decreases; the sole thickens and heightens; the crust becomes marked by veins and grows considerably higher. In fact, the foot from being an open, healthy foot, becomes a *contracted* or diseased member.

To say, therefore, what ought to be done for a horse's feet that are "dry and hard," one ought to know what *causes* such dryness and hardness; and this is frequently quite difficult to ascertain. It may be occasioned by too much pressure upon the frog, by a strain, or by stepping upon a stone or other hard substance.

If in travelling the toe of the shoe becomes worn much more than the rest of it, it indicates that the tendon which covers a portion of the navicular bone,—lying at the inner corner of the coffin bone,—has become injured, and ossification has taken place; that is, a sponge-like appearance of the tendon. It then becomes extremely painful, and being out of sight, it is difficult to determine what to do for it.

The only remedies which seem to be relied upon the most, are light work, kind treatment, and keeping the feet moist. The latter may be done by keeping the animal standing on moist sand in the stall, and by soaking the feet every other night, for one hour, in hot water, for two or three weeks, and tying them up until the next morning in old woolen cloths. Bleeding is sometimes resorted to, and so is a division of the nerve of the leg; but they are of doubtful service, and ought not to be resorted to only by experienced surgeons.

The disease indicated by a *pointing of the foot*, is very common, and ought to receive thorough investigation by veterinary surgeons. It makes the horse a very uncertain traveller. He becomes slow and awkward in his gait, shrinks when he goes down hill or over stony ground, and is liable to stumble and fall on any ground.

We would not advise the use of cow dung, or the urine and salt which you mention; but rather stuff the foot with wet cotton, or something which will retain the moisture. The cotton may be kept in by placing a small piece of flat wood across the shoe. Wet the cotton when it gets dry.

THE QUINCE JAPONICA.

Can you, or any of the correspondents of your valuable paper, tell me whether the fruit of that beautiful flowering shrub called "*Quince Japonica*," can be made of any use? I have a large bush of it, which I have kept in my garden more than ten years, because of the beauty of its flowers. This year it bore about a peck of fine looking fruit, somewhat resembling a quince in flavor, but more acid. I think I have heard the shrub called *Chinese quince*. I notice in Botany it is classed with apples and pears in the genus *pyrus*.

INQUIRER.

REMARKS.—The "Japan" Quince, or as it is often called, the *Quince Japonica*, is one of the most

beautiful of our flowering shrubs. Like some other fair things, however, it has nothing but its beauty to recommend it,—and that is enough in this case. We have never heard of any use being made of its fruit, nor can we find any such reference in the books.

BULLS AND STALLIONS AS WORKERS.

In an English edition of a work "On Force," by Charles Bray, it is asserted that "geldings and oxen have much more working power, than is, enduring muscular force, than stallions and bulls." This is not in accordance with my opinion on the subject, formed from observation of quite a number of experiments with animals in both conditions, in continuous labor and in exhibitions of strength and endurance.

The same writer says, "the sexual feeling is generally the strongest in the system and absorbs the largest amount of force;" but may not this force be expended in the labor performed by the bull or stallion which is kept at continuous work?

Quite a number of instances have come under my observation where an entire horse in a team, has, as the saying is, worked horse after horse to death, and the owner has offered almost double price for one which could do as much work as the stallion; but, I have never known the reverse of this, to be true. As a class, do geldings do better on the course than stallions? Some very fine and fast geldings, of course, are to be found, but, had they been left entire, and had the same care and training, what would they have been capable to accomplish, is the question.

Time and again have I seen the bull worked with the ox, of equal age and girth, and in a yoke with one to six inches the shortest end, and other things being equal, prove more than a match for any ox which could be obtained; but, there has not come to my knowledge a case where it has been the reverse. Several instances have been observed where the owner affirmed that his bull would do as much work upon the harrow or stone-boat, in a short yoke, as a pair of oxen of equal size would do; and, at some of our shows and fairs the single bull has competed with a pair of oxen in a test of strength, and made a good show at that.

One conclusion, though not entirely satisfactory, has rather been forced upon me, and it is this: that bulls and stallions do not endure exposure to heat or cold, as well as oxen, geldings, cows and mares; but *why*, is the query, if the fact is admitted. In testing their endurance of muscular exertion of a continuous nature, they should not be put to any other use during the trial.

The facts—truth—are wanted,—that is all. And if any who have made fair trials have come to a different conclusion from that I have expressed, I shall be very happy to hear from them.

There are well known advantages in emasculation, such as greater docility, &c., but are strength and endurance promoted or increased thereby?

Farmington, Me., Nov., 1870. O. W. TRUE.

GRASS-FED STOCK.—CORN RAISING IN NEW HAMPSHIRE.

When I read the article in the NEW ENGLAND FARMER on grass-fed beef,—comparing some from Vermont that had no grain in it, with that from the best Western steers,—I should, had I a voice loud enough, have given three cheers that would have echoed from one hill to another throughout New England.

Last winter the farmers of New Hampshire were urged to "plant another acre of corn" to make up the amount we consumed. Grass was ignored. The use of corn was not discussed, but

it was declared by some of your correspondents that we *must* have corn to have beef.

The importance of keeping animals constantly growing is fully appreciated by few farmers in New Hampshire. "Spring poor" is a significant, but very common phrase here.

This summer we fed two calves with skimmed milk, and hay or grass, until they were about twenty weeks old, when they were worth \$25 each, to kill or to keep, as that amount was offered by the butcher, and paid by a man to keep. They ate no grain. Many heifers and steers two years old are sold for less money; but they are animals that have been subjected to the starving process twice at least during their growth. There is no foundation in truth for the statement that New England farmers *must* keep their cattle in that way. Nearly all of our pastures are good at some time in the year; but very few remain so during the twenty weeks that are generally considered the pasturing season. All of our farms may produce something to furnish food for stock in the summer, when the grass becomes dry and innutritious. Cattle that are thriving, will fatten as quickly as others that are growing poor will recover their thrifty condition.

What is to be the subject discussed this winter? If the same subject was discussed throughout the State, and the discussions reported, we could have the experience of our friends in other parts of the State to meet our opponents at home. Better arguments than have ever yet been offered, must be advanced to induce us to hoe another acre of corn more than we have done.

New Hampshire, Nov. 1870.

AN EXPERIMENT WITH ITALIAN BEES.

Five years ago last spring I had an Italian queen put into a swarm of black bees. The next season they swarmed four times. The two first swarms sent out two colonies apiece; the third swarm one, which flew off, and the fourth one, which was also lost. The others I saved; making nine swarms from one in one season. Since then they have not swarmed more than the black bees ordinarily do; and have barely gathered honey enough to live on through the winter, although the first year every swarm had abundance of honey, even the third and fourth, as the fourth was stopped a mile from home. Now, why is it? I have kept bees over thirty years, and never heard of the instance of such an increase of bees in one season as I have mentioned, nor should I believe it if I had not had the sole care of them, and know it to be so. This season I have but two young swarms that have honey enough to winter.

North Dana, Mass., Nov. 11, 1870. ORSON TOWNE.

PREPARING TUBS FOR BUTTER.

In reply to the request of "Learner," I will give the method I have practiced for over twenty years, and have never had any occasion for complaint that the butter tasted of the tub.

After soaking a new tub in cold water to ascertain that it does not leak, I fill it with skimmed milk; much preferring that newly soured. Let it stand from thirty-six to forty-eight hours, then pour it out, wash and scald the tub thoroughly and fill with strong brine, letting it stand a week or more before packing the butter. The brine should be so strong that salt will remain undissolved at the bottom of the tub. I use no salt-petre; preferring pure salt to rub on the inside of the tub before putting in the butter. I treat tubs from which the butter has been used in the same manner; washing them thoroughly before filling with the sour milk.

Putney, Vt., Nov. 7, 1870. M. M. B.

For the New England Farmer.

CULTIVATING AND KEEPING ROOTS

One method of agricultural progress, and a very good one, too, is by the perusal of agricultural publications. Another by experiment, and a third, and by no means insignificant means of advancement, is by observation.

I am in the habit of raising a quantity of roots every year for feed; consisting this year of mangolds, carrots, parsnips, and Swedish turnips, comprising about three-fourths of an acre in all. On one side of the piece, but at the ends of the rows, was a ridge from one and a half to two feet higher than the ground occupied by the roots. In July, when the beets were about two inches through, I had occasion to level this ridge, and in so doing filled in between the rows a distance of about two feet from the ends, and from three to six inches deep, covering some of the beets and carrots up around the tops. There were two kinds of mangolds, two of carrots, two of turnips, and one of parsnips. On harvesting, it was found that on the two feet of the rows so filled in, the yield was double, by actual weight, that of the same distance on any other part of the row, with one exception, that of the long orange carrot, where the difference was not as great, owing, I presume, to their growing entirely below the surface at all times.

Now the query is, will it pay to hill up root crops like potatoes, or must it be filled up between the rows and kept level, as was the case with these? Would it have had the same effect if the season had been wet, instead of dry? I have observed also that the mangolds that were filled in are as tender and good to cook as the table beet, and those not so treated are a little more stringy, though not very much so.

Speaking of the quality of beets, or any other vegetable, for that matter, I am led to express an opinion which is at variance with that of most writers, and I presume that of the Editor of the FARMER, viz: that, one year with another, early sowed or planted vegetables are the best in quantity and quality, turnips excepted. I know that Mr. Gregory, and all seed men, recommend sowing the mangolds, carrots and also table beets, for winter use, the last of May or first of June. I have been experimenting for ten years, and I now plant all such things as early in the spring as I can get the ground in good condition. I leave the roots in the ground as late as possible, then store in a cool dark cellar, and I have as good vegetables as one can ask for. In 1869 I sowed table beets the 22d of April, and had some of them the next year, when new beets were large enough to cook, that were almost as tender as the new ones. For spring and summer use, I have some in the field, and in the spring I hoe them up and pick them in a box, with moss, and they will keep until new

ones come. Turnips and carrots can be kept in the same manner. Some contend that the expense of cultivation is greater when sown early, but if the land was properly tilled the previous season, there is but little difference, or at least so thinks

OBSERVER.

Oak Hill, N. Y., Nov., 1870.

SAVING MANURE.

Our correspondent, J. M. Crafts, Whately, Mass., writes as follows to the *Boston Cultivator*:—

For the last ten years, I have not allowed any waste, from water or wind, of my manure, as I have carefully housed it *all*, and have endeavored to save the urine by means of absorbents, placed in a trench behind my stock; using, more generally, peat muck for that purpose; sometimes I have used sand. The quantity and quality of the manure thus made is about in the same ratio, say, one multiplied by ten. Antediluvians thought, and plainly told me, that "I should spoil my land by using so much muck; it would sour it all up." But I have lived to see some of these same men drawing muck of late years, and using the same quite freely. It has, however, been attended with a good deal of labor—the supplying of the trench every day—and I have been casting about for some easier method of accomplishing the same result with less labor. I have just completed a new stable, 15 by 40 feet, making room for nine head of cattle and two horses. Underneath I have a basement room—above ground—that is the same size of the stable, and about eight feet high; a wall of stone surrounds it on three sides, three and one half feet high, on which rest the sills of my barn. The whole cellar is enclosed and warm, so that I hope to prevent the manure from freezing in the winter.

The bottom of this cellar is covered with old brick, laid flat ways down, and a little apart, and then covered and completely filled with hydraulic-cement mortar, made so soft that it would easily fill every crevice between the bricks, and the coating will vary from one-half to one inch on the top of the brick; the wall is pointed with the same material. This is done to prevent the pigs from rooting the bottom of the cellar all up, and to retain, to an extent at least, the urine not taken up by the peat and other absorbents supplied. I have now four pigs busily at work on the pile, and so far I am pleased with the results of my labors, and I hope to make more manure, and better, than I have ever done before. When I have proved it, I will give the results.

—Horses, it is stated, are among the articles in Paris which have been most greatly depreciated by the siege. At the exhibition of horses, a foal which before the war would have sold for \$1000, are now selling as low as from \$50 to \$100.

A DAY AT "INDIAN HILL" FARM.



OME four miles from the city of Newburyport lies the above farm, which derives its name from a large swell of land which was called "*Indian Hill*," in the deed given of it in 1650, by "Great Tom," to the town of Newbury. This hill was subsequently deeded by the town to John Poore. It has

since been handed down from father to son, and the present owner is the *seventh* proprietor, and is the able and widely-known correspondent, "PERLEY," of the *Boston Journal*.

The view from the top of the hill is extensive, when the weather is clear,—the panorama including the ocean from the Isle of Shoals to Cape Ann, and the lower portion of the Merrimack Valley.

On the apex of the hill is a well, some eight feet in diameter and ninety feet deep. Near this is the form of a masonic lodge, laid in green turf, in memory of the ancient brotherhood who were accustomed to meet on the top of a hill.

The homestead embraces about 200 acres, and there are about the same number of acres of outlands, in pastures and woodlots. The father of the present proprietor, Mr. Benjamin Poore, was a merchant in New York, but always passed his summers in the old homestead. Visiting England in 1830, he had plans made of the old family place there, and on his return had an oaken frame building, erected in 1650, re-modelled and changed so as to reproduce a British yeoman's rural home. To this he added a barn, the lower story of which is of stone, built on the Scotch plan, with a reservoir for the wash of the yard and stables, with the waste water from the house. This barn holds about 150 tons of hay, and is this year almost full.

Mr. Benjamin Poore was associated with Timothy Pickering, E. H. Derby, Gorham Parsons, and others, in the formation of the Essex County Agricultural Society and was a member of the Massachusetts Society for the Promotion of Agriculture. He reclaimed and thoroughly underdrained large meadows, and his herd of white Short-horns is still kept up

by the purchase of young thoroughbred bulls as they are needed, thus avoiding breeding in-and-in.

In 1845, the Massachusetts Society for Promoting Agriculture, awarded a massive silver tea urn to him, for "the best-managed farm," and he obtained many other premiums from the county society for farm products and stock.

Major BEN. PERLEY POORE, who in turn inherited Indian Hill, has been, and still is, very much occupied in literary pursuits, and resides on the farm only a portion of the year, but manages not only to keep up its former productiveness, but to make many and very substantial improvements. Having been required, when a lad, to plant forest seeds and acorns, some of which are now large trees, he has given especial attention to arboriculture. His plantation of twenty-five acres, which has recently been awarded the *one thousand dollar* premium by the "Massachusetts Society for the Promotion of Agriculture," demonstrates that forest trees can be grown on the bleak hill-sides of New England, reclothing them, ameliorating the climate, and causing dried up springs to gush forth again.

In this plantation there are twelve varieties of oaks, with maples, ash, locust, fir, pine, larch, and other varieties. The land upon which the forest-plantation is located is quite high, being a portion of three sides of the "Indian Hill" itself. Winding in graceful curves around its sides, are pleasant foot paths for pedestrians, and comfortable carriage-ways for those who do not care to climb so high. The trees composing the plantation are all from seeds planted by the proprietors of the land,—by Maj. Poore, or by his father. Some of the oaks and chestnuts are now nearly, or quite, seventy-five feet high, and in the most thrifty condition. A row of chestnuts of this character border the north side of the garden, sufficiently near to protect, but not to overshadow the smaller plants.

In rambling over the plantation, we noticed a great difference in the size of the same kind of trees, and was surprised to learn that this difference was the effect of *shelter*. Numerous instances were then pointed out where oaks and other trees were three or four times as large as those set at the same time, but in exposed places.

The farm, as a whole, is a fair example of what thorough drainage, protection, and careful culture will accomplish. The fences are good, and the land under them is clean, the fields—though the harvests had been gathered from them—indicated high condition. They were broad, clean and productive. All the cattle of the farm are white Short-horns, and possess the fine points of that famous breed. A few sheep, together with a variety of poultry, gave animation to the scene, and were the source of cheerful hopes in a gastronomic point of view.

The dwelling is unique. There is probably on other like it in the country. It is in the form of the segment of a circle, flanked at the points by a round stone building. A porch over the main entrance to the centre building, is sustained by large cedar posts, with the bark on them, and the whole front is overrun with the Tennessee or some other climbing rose interspersed with creeping plants that flower at different times. The internal arrangements are as unique as the external. The broad hall, with its galleries, and four parlors opening into each other in a circle, remind one of the halls of the ancient barons which we read of in the novels. But it is the circular stone building on the south of the structure, where the *genius loci* may mostly be found, among rare paintings and books, Indian relics, and relics of men buried 3,000 years ago, armors of Spanish Knights, Salvos from Damascus, ancient records of agricultural practices, and more than 15,000 autographs of distinguished persons!

In order to keep fresh in the memory some of the modes of living, the furniture, crockery, clothing and domestic utensils of his ancestors, he has several apartments filled with all the appliances of their day, from the kitchen fire-place to the bed-room and parlor. Most of these articles were the property of the occupants of the farm, and have been handed down with jealous care from one generation to another.

Pleased as we were, however, with the forest and the farm, nothing was so gratifying to us as the spirit which animated the domestic life of all, parents, sisters and children;—that domestic life which is—

—“friendly to the best interests of man,
Friendly to thought, to virtue, and to peace,”

those loving and loveable hearts, that

“Brighten light,
And give back sunshine with an added glow.”

HON. HORACE CAPRON'S ADDRESS.

We have read with much interest the address of the present head of the Agricultural Department at Washington, delivered at the Cotton State Fair and Agricultural Congress held in Augusta, Georgia, during the last week in October. It was so pointed and practical, and contained so many homely, old fashioned truths in respect to the true causes and foundation of national as well individual prosperity and wealth, that we have been a little curious to see how it would be received by the Southern people.

The *Home Journal* of Lexington, Ky., says “it was full of timely suggestions, and was well received,” and gives the following synopsis of the address:—

He urged the importance of manufactures. With the abundant fuel and water power found throughout that section, the greater portion of the cotton crop could be manufactured, at least, into yarns and coarse fabrics, and many millions of profit saved to the South that has heretofore been lost to it from the absence of this lucrative industry. England and France make one dollar's worth of raw cotton yield three, and the Southern factories could, in time, turn out all the goods for which they have now to send North. These ideas have been repeatedly set forth in this paper, and the notable success of the manufactory established at Augusta—two-thirds of the capital of which has come from its own earnings—proves conclusively that such enterprises are practicable.

There is no reason why a single pound of sugar should be brought from abroad, for, although our home production last year was not ten per cent. of the consumption, Louisiana alone has suitable lands of sufficient area to supply the present wants of the country. The fruits which grow in the fertile South are of such wonderful variety, the products of which show so largely in our imports, should add annually millions of dollars to the wealth of that section and the country. The cheapest beef and cheapest wool produced in the country, are now, as the statistics show, the product of the grasses of the Gulf States.

Mr. Capron also urged upon the Southern people the benefits that would result to them from a system of mixed husbandry. If more grain were raised and less cotton, they would be better off, for it is an established principle that men grow rich by what they make, and the opinion was confidentially expressed that the time would come when the products of cotton will be all surplus, other products paying the expenses of the farms. He encouraged also a restorative instead of an exhaustive system of agriculture, the use of fertilizers, judicious rotation and a course of grasses.

The *Home Journal* also says that the “Congress,” consisting of delegates from agricultural and other societies, was organized by the selection of Hon. Herschell V. Johnson as president, and adds:—

Speeches were made by representative men from all the late slave-holding States, setting forth the advantages and capacities of that section, and the necessity, not only for a wider range of production, but the feasibility and profit of manufactures. Committees were appointed for practical work *ad interim*, and Selma, Alabama, designated as the place for the next meeting.

This Congress was a gratifying success, and, in our opinion, its meetings will give a needed impulse to the development of the agricultural and industrial resources of the entire South, and direct the awakened enterprise and energies of the people there so as to lead to the best results.

There is no good reason why the South should not, with all the people working to one end, with its high capabilities of soil and climate, with new and improved modes of culture, and the opening up sources of profit hitherto unknown there, prosper in the future to a greater degree than it ever did in the brightest days of the past.

LOSS IN WHEAT RAISING.—New England farmers who have to figure pretty closely to find a profit in the result of their farming operations during the past year, may, perhaps,—on the principle that “misery loves company”—experience a sort of melancholy satisfaction in comparing notes with those who till the rich soils of the Western prairies. The following “account current” is furnished to the *Prairie Farmer* by a Missouri farmer, with his wheat crop on four and a half acres, on which “New York Premium Wheat” was drilled in, September 2, 1869:—

Ploughing, say	\$7 00
Harrowing, say	2 00
Drilling, including hire of drill	3 00
Seed	8 00
Reaping, say	4 00
Binding and shocking, say	4 00
Stacking, say	5 00
Thrashing	4 00
Interest on value of land and taxes	21 00
Hauling 75 loads manure, applied before harrow	27 00
Total expense	\$35 00
Credit by 75 bushels by thrasher's measure, sold chiefly for seed, and remeasured only 71 bushels	\$84 00
Loss	\$1 60

For the New England Farmer.

POULTRY.

Best Breeds, Care, Management, Profits, &c.
An Essay read before the CONCORD FARMERS' CLUB,
by BENJAMIN W. BROWN, Nov. 3, 1870.

There seems to be no branch of domestic economy less understood by farmers in general, than that of profitably raising poultry. Perhaps, if we look into this subject a little, we may ascertain some of the causes of the unprofitableness complained of, and more especially by those who keep poultry in small numbers.

Most people think that fowls must pick their own living around the house and barn, roost in an old shed or out in the open air exposed to storms and wind, and yet yield a good supply of eggs. I have found that fowls which have to roam about all day in search of food, have little time or inclination to lay eggs; and any one who expects to realize profit from poultry managed in this way, may as well expect to get rich raising asparagus, strawberries, potatoes, corn or vegetables, and not take any care of them.

I would like to ask any one of those gentle-

men who finds fowls so unprofitable, if he would expect his cows to be a source of profit if allowed to run at large, in the highways, and get a living as best they could; or his swine to fatten if not taken care of and fed regularly; or his horses to perform daily labor; or even to do a day's work himself, if treated in such manner as he is wont to treat the fowls? Many people labor under the impression that because the fowls find a few flies, worms, &c., to feed upon, they will get their whole living in this way, and be a source of profit besides. But I have found that in order to pay well, fowls as well as all other domestic animals, must be properly cared for and fed.

One complaint is that they destroy everything about the garden and house, and are a trouble in many ways. In answer to this, I should say, give them a place to stay in, the same as you do your cattle and horses, and they will not trouble your garden. The whole secret of success is in giving poultry plenty of feed, both grain and flesh. During the summer months they will provide themselves with animal food, but in the winter months they should have plenty of meat of some kind.

Best Breeds.

This is a question on which there is a great diversity of opinion, and I have hardly found two persons who agreed. I have had several different kinds,—the old fashioned small hens, the White Dorkings, the Black Spanish and the Brahma Pootras, and am well satisfied that for laying, rearing young and for the market, the Brahma Pootra fowls are the best.

The White Dorkings are very good layers, but do not grow as large as the Brahmas. Having heard a great deal about the Black Spanish fowls as good layers, I purchased two of them, and in one year I was satisfied that they would not do for me. They did not commence laying until nearly spring. They are very small fowls and lay small eggs. They would never roost with the rest of the hens, but get as high up as possible, and I could not keep them in my hen yard, where the rest of the fowls would never get out. When dressed for market their flesh is very dark colored, and anything but inviting to the eye.

A great objection urged against the Brahmas is that they are more inclined to set than any other breed. It is possible that such is the case; but I found last winter that my Brahma pullets laid more eggs than any kind I had, and wanted to set more also; but I found that I could break them up in two days, and they would go to laying again, while the other kinds would not commence laying again for a month or more.

In the market no one can deny the fact that the Brahmas are the best, for they grow very fast, and when dressed are yellow and look very well indeed. Another advantage is that

when they are sent to market, instead of weighing six pounds a pair, as the Black Spanish and other small breeds do, they weigh from twelve to fifteen pounds per pair.

Of the other kinds of fowls I know but little, except the Houdans, which are noted for their good laying qualities, and also for their not wanting to set often, though in size they do not compare with the Brahmas.

Feeding Poultry.

My method of feeding fowls is as follows.

In the first place, I keep grain by them all the time; for I have found from experience that they will eat much less when fed in that way, than when fed twice a day all they will eat. I have a trough or low box, with slats nailed across the top so that they cannot get into it and scratch the grain out. This is kept filled with corn and oats during the winter; and about twice a week give them wheat screenings, which I have found excellent food for laying hens. Oyster shells should be pounded for them every morning, and from a cake of pork scraps, kept by them, a small quantity should be chopped off for them every morning. Fresh water should be kept by them all the time; and in cold weather it should be warmed. By this method of feeding about five minutes or less a day are required to take care of them.

The Hen House and its Appurtenances.

The boxes for laying should be large enough for one hen only, and should be covered if possible, as a hen when laying will get out of sight if a chance is given her for doing so.

The roost should be in one corner, and I have a floor underneath so as to catch all the droppings, and once a week take them all up clean. The result was that last spring I had hen manure enough to plant two acres of corn with, which I considered worth more than the same weight of superphosphate, or any of the special manures in market.

I have a small room partitioned off in one end of my hen house for a sitting room, and when I wish to set a hen, I take her, in the evening, from the nest she has been laying in, and place her carefully on the nest she is to set in; and in nine cases out of ten she will set without any difficulty.

A hen house should be built with a row of windows on the south side, so as to admit the sun in the winter, and a hen yard of suitable size should be built on the north side of the building, so that they may have a cool place in the summer.

A great mistake is made by crowding too many hens into a small place. The building which my hens occupy is 32 by 17 feet, and I consider 50 hens a large number to keep in it.

To avoid vermin, which hen houses are apt to be filled with, I white-wash it thoroughly, taking great pains to wash the roosts, as the vermin are more apt to be found there than elsewhere.

In order to show those persons who think the raising of poultry unprofitable, that it can be made profitable, I will give you an account of my poultry kept in 1869. I commenced January 1, 1869, with

	DR.		CR.
45 fowls, at 75c. . .	\$33 75	Poultry sold . . .	111 27
1 turkey . . .	1 25	Eggs " . . .	64 53
Paid for grain . . .	62 00	40 fowls on hand, 75c.	30 00
" meal . . .	8 27	2 turkeys, at \$1.25	2 50
" scraps . . .	3 53		
" potatoes . . .	3 25		\$233 33
" 1 calf . . .	1 25	Subtract cost . . .	113 45
	\$113 45	Leaving for profit .	\$94 83

I have given no credit for poultry or eggs used in the family, which would amount to quite a large sum; nor for the manure, which you will see was worth something by the statement previously made.

I am convinced that with more care, I could have made 50 per cent. more, and there is a gentleman in this neighborhood, not a member of this Club, who could make a showing in regard to his poultry for the last year, that would put my statements all in the shade.

Of the management of chickens, I shall say but little. I prefer to have them hatch out quite early, as soon as February, or else quite late, as I have found that they generally pay better. Have most always had good luck in hatching, but lose many by disease or something, before they mature.

I wish to state that my account of poultry kept in 1869, was not any guess work, but taken from actual figures put down from day to day, which any gentleman in the Club may see, if he desires to do so. Any person who will try the raising of poultry, conducting it in a proper manner, and not make it a source of pleasure and profit, will be an exception to the general class of people.

For the New England Farmer.

DEEP AND SHALLOW PLOUGHING.

Most all of the agricultural papers in our land have correspondents who advocate "deep ploughing," but very few recommend "shallow ploughing." Is it because deep ploughing is the exception and shallow the rule? Having had experience in the matter, I have decided that deep ploughing, as a general practice, is detrimental to the interest of the farmer.

In the year 1865, I manured very heavily four and one half acres of sward land, which had been in grass five or six years as pasture or mowing. The soil was a clay loam with a heavy clay subsoil. Having a strong team, the manure and sod were covered to a depth of six and a half or seven inches, being one inch and a half deeper than it was usually ploughed. It was planted with corn about the 15th of May, with well rotted manure in the hills. With such liberal treatment, expectation ran high as to the amount of corn I should get; but disappointment came. The corn grew

very slow, and some of it never attained a greater height than one and a half or two feet, and the consequence was, it did not average more than 35 bushels per acre, whereas, my opinion is, that if I had not ploughed more than five, or five and a half inches, I should have had at least 60 bushels per acre. The oat crop the following season (1866) was very light indeed; not more than one-half what I usually got, when manured so thoroughly. The following year (1867) it was mowed, but the crop was very light. The years 1868 and 1869 it was pastured, but the feed was not very abundant, having usually pastured one full grown creature to the acre on such land. This year it was mowed again, and gave a tolerable crop of hay. I think the land will recover its former fertility in time, but the loss has been too great.

I had much rather plough five to six inches, and run the subsoil plough four or five inches deeper. This I have done on 19 acres of these clay lands with great success, improving both grass and grain. I think manure covered not over five to six inches deep will give the greatest benefit to the corn crop, as corn roots grow near the surface.

My corn this year was planted on a yellow loam soil, ploughed five to six inches, and during the most severe drought I have not observed that the leaves have curled in the least, and it is a most excellent crop, with the larger part of it good seed corn. Gravelly and sandy soils may be benefited by deep ploughing, as they are more easily affected by drought.

I am aware that I am running counter to the opinion of many men upon this subject of deep ploughing—some of them theorists, perhaps, and some of them good, sound, practical farmers. I do not wish to mislead any one in the matter, but let every farmer test the matter by experience, and judge for himself.

JAMES CHILDS.

Deerfield, Mass., Oct. 17, 1870.

DEVONS FOR ALL PURPOSES.

It is fashionable, on our Illinois prairies, to praise the biggest cattle as the best, and the thoughts of most of our stock-improving farmers are turned to Durhams and their grades as the most desirable cattle. Possibly where beef is the only object, and corn and grass are far away from towns and railroads, and cheap, so that an extra ten bushels of corn or half an acre of grass are hardly worth the reckoning, these may be the best cattle.

But if one wants to get the animal combining the best milking, beef and working qualities for the smallest expense, he should get the Devon. Ten or twelve years ago, desiring to improve my herd of cattle, I was induced to look into the question of the most profitable cattle for the region and latitude of St. Louis. Here is a market near at hand in

which all kinds of cattle feed bear a fair price, making economy in feeding a point to be looked into more carefully than it has been on our wasteful grain farms. During the later summer, we have often severe droughts and short pastures, so that heavy feeders require a large acreage for their sustenance. Looking at these points, even if we concede that, with high feeding, the Short-horn is the best, we must prefer the Devon for the common ways of common farmers. But experience goes to show that the smaller animal on the thinner lands will glean a better sustenance and get in better condition, other things being equal, just as in spring, sheep and young cattle will fill themselves from the young grass before the larger animals are able to do so. Over and above this, we may believe, from the experience of those who have bred the Devon and Durham side by side, that there is more assimilation of food and less offal in the Devon, so that a pound of beef represents a smaller amount of feed in the Devon. This, I think, is the observation of Col. Horace Capron, our present Commissioner of Agriculture, who has fed the two breeds together. I have not enough experience to pronounce a definite opinion, but I am told by a feeder that some half grade Devon steers which I sold him fed more satisfactorily than the common cattle of the country or grade Short-horns. Fat steers, I find, agreeably disappoint the purchaser whose eye judgment has been formed in the examination of the more leggy and less compact bullocks of other breeds. The beef is better and worth more in the markets than that of the Short-horn, or for that matter, of most other breeds. Several years' experience in the use of the beef of grade animals satisfies me that it is more generally good, animal after animal, than that of other cattle, and most desirable for the farmer who slaughters his own beef. The smoothness and uniformity of the steers impress the purchaser favorably, and make them fancy lots in the markets. Their weak point, if they have one, is a less early maturity, whereby they may not attain a sufficient size at as early an age as the Short-horn.

As milking animals, I find them very satisfactory. The quantity of milk is not the largest, but is nearly as rich as that of the Alderney, and makes butter of equal excellence, though not so high colored. Taking quantity and quality both under consideration, I do not find them inferior to any breed that I have seen or heard of. They are kind, loving animals, like to be petted, but impatient of abuse, and make reliable and gentle milkers. I noticed that Mr. Allen, in his late book on cattle, commends the capabilities of the breed in this respect, as well as others, as among the best.

For a working animal—and I still have faith in the economical value of work-oxen on our large farms at least—the Devon steer's merits

are conceded. He is quick, enduring, and spirited; and were it not for the difficulty of procuring good specimens of that almost obsolete race—in this part—the ox-driver, I would commend him to all concerned. Worked until about eight years old and then fattened for beef, he makes a profitable animal to the grower.

Beyond these points of merit, I find the Devon a hardier animal than any other of our cattle kind—hardier even than our natives. He endures extremes of cold and heat with an equanimity that his great vitality alone accounts for. The Durham requires special attention to endure our cold winters, and does not thrive in the drought and heat of our summers, but the Devon goes through all, hearty and thriving.

In face of all these facts, it must be conceded that the Devon is not the popular breed. His well-balanced merits of beauty of form and color, excellence of beef, richness of milk, and superiority as a work animal, do not seem to tell against the bigness of the Short-horn. Just as the popular and superficial choice fixes upon the bigness and bright color of fruits as criteria in selection and purchases, "Big Romanites" in preference to Newtown Pippins, and Concord instead of Delaware, so I sometimes think the big and clumsy draught-horse and the large and artificial Durham are preferred for the very insufficient reason of superior size.

But for many, perhaps most, parts of our country, I am strongly inclined to think that the common farmer who grows cattle for his own use and to sell in the markets, and who is not doing a fancy business in taking premiums at fairs and selling over-fed calves at exorbitant prices as breeders, will find the Devon a more profitable animal than the Short-horn. I am afraid it may be considered very heterodox, possibly blasphemous, to say so, but such is the drift of my conclusions thus far, after some experience and some observation.—*H. C. Flagg, in Hearth and Home.*

SHOEING HORSES.

If the shoe does not sit perfectly level all around, and if it extends so far outside the hoof that the nails are prevented from entering the crust in the exact spot, and in the very direction, which they should, there will be a constant straining on the nails, which is injurious to the foot, and will be liable to chip pieces off the hoof. The shoe ought to be made wide across the foot, at the point where the two front nails are situated. The greatest mistake frequently lies here. In place of turning the shoe, at the toe, very carefully on the horn of the anvil, the smith generally sets it up on its side and then strikes it with his hammer. The consequence is it yields at the centre of the arch, and, instead of being nicely and regularly rounded in front, whilst the

breadth from side to side is preserved, the nail holes on each side are brought nearer to the centre of the shoe than they ought to be. As a necessary result, the shoe at the front nail holes is too narrow for the hoof, and, when it is nailed on, the crust presses injuriously on the internal sensible parts of the foot. It is difficult to convince the smiths of the possibility of laming a horse, by having the shoe too narrow in front. They generally think the whole difficulty lies about the heel.

In putting on the shoe the nails should be driven with a gentle hand, and they ought not by any means to be clenched very tight. Hard driving and tight clenching will bend the hoof, at the place where the clenches are turned, inwards and downwards towards the shoe in such a manner as to injure the tender parts contained within the cavity of the foot. Besides, it is not necessary for a man to forget he is working with the foot of a living animal. The shoe will remain on a sufficient length of time with gentle driving and clenching, provided it is properly fitted to the foot. If it has a thoroughly even bearing, there will be little stress on the nails. The nails are often made so coarse that they split the hoof, and thus keep it constantly broken. A fine nail will answer all the purposes required if it is made of the right sort of material.

We know of no worse fashion, in connection with the application of the shoe, than the one which the smith has, of hammering the shoe on the one side or the other after three or four nails have been driven, for the purpose of putting it straight on the foot. This is a speedy method of making up for his total want of accuracy in placing it at first; but it should never be suffered to be practiced. It strains all the nails which have already been driven, and is thus calculated to do serious damage to the foot.

Shoeing has been regarded by some as a necessary evil; still we are certain, it is an evil in the horse or in the man only when it is improperly performed. We are confident in both cases it would be advantageous, rather than the reverse, if the artisan could always be made sufficient acquainted with the theory of his profession, and had hands, or rather a head, for its due performance.—*Pra. Farmer.*

For the New England Farmer.

MANAGEMENT OF PASTURES.

Water.

During the winter months the need of water is evident, and many farmers are at great expense to provide it; but in summer, it is much the custom to depend only upon natural supplies.

Fortunately the springs and brooks in New England are so abundant that the majority of pastures are well provided, and it is only left for us to consider how to remedy the deficiency in a few exceptional cases.

Some springs that run abundantly in spring and fall, dry up in mid summer. In my own pasture a spring stopped, and the earth that was trodden around it by cattle, showed no surplus moisture, yet by digging a few inches a clear stream came bubbling up, and a little more digging gave a good supply.

The owner of a very dry farm in my neighborhood set his man to digging in a place where the mud showed symptoms of a spring. Immediately a spring was released that has ever since furnished water sufficient to drive two hydraulic rams, by which water is propelled to two dwellings. In order to get the required fall of water, a curb was made around the spring, of stone laid in cement. This, filled to the top, gave three or four feet fall.

If there are no springs that can thus be improved, surface water can be held in reserve in pools and cisterns. In most pastures there are low depressions, where the surface water naturally accumulates. A pit ten feet square with the sides of plank, backed up by blue clay, or the sides plastered with cement, would hold a supply for a small stock through the summer. If stock visit the barns at pleasure, the roofs will furnish water, if it is properly directed into cisterns, from which it may be pumped as needed. Wells also can be dug—if shallow, let them be large so as to hold a good supply.

Stock, in a dry pasture, that are driven some distance to a brook every day will rarely keep in good condition. They become uneasy, and the care of them will be a tax upon the owner's time. Any pasture in New England can be supplied with water.

Stock for Pasture.

The best stock to keep a pasture in condition is, doubtless, sheep, as they lay upon the elevated portions, which are speedily enriched by their droppings. The lower portions, which are grazed during the day, are naturally richer, but will receive a due proportion of manure.

Next to sheep, are full grown cattle, fed for beef, that lie day and night in the pasture. Young cattle take more from the nutritive elements of their feed than beef cattle, because their bones are growing as well as their flesh.

Dairy cows soon get the habit of coming to one part of the pasture at milking time, and if they are not removed from the pasture at night, their droppings accumulate and make a portion of the pasture uselessly rich. If the droppings are shovelled up into heaps, and some soil added each day or week, there will be a load or two of manure from each cow in the dairy, during the season. If this fertilizer is carted back into the pasture and spread in the fall, it will increase the feed or improve the pasture. If, in addition to this, the part of the pasture used for a milking yard is plowed and sown to corn for fodder, and another yard fenced out, doubtless the top

dressing and fodder-corn would improve the pasture steadily.

Horses alone are the poorest stock for pastures, as they are dainty feeders, leaving coarse grass and bushes, and their droppings are of but little benefit to the turf. Steady work horses can profitably be pastured with cows, as they graze by the hour near the bars, where the rank feed is refused by the cows. Colts are apt to chase cattle and sheep at times. To get the greatest profit from a pasture, mix the stock in about this proportion: ten cows, one horse, and five sheep.

Fences.

Pasture fences should be such as to secure any stock. In some parts of Massachusetts, New Hampshire, and Rhode Island, a single wall surrounds the pasture, and although sheep would be the most profitable stock where lamb is twenty-five cents a pound, yet sheep cannot be kept secure by a slight, imperfect wall. If stakes supported a rail above the wall, it would be better, or a board nailed to posts in the wall. I have seen miles of wall that was nearly useless, as its security is measured by its weak places.

Cedar rails, laid up Virginia fashion, each two lengths forming the sides of a triangle, make a good fence, if the work is well done. Where durable wood for posts can be cheaply obtained, a board fence is satisfactory, if it be "pig tight, bull strong, and horse high."

Shelter and Shade.

In most pastures, there are trees that give shade, but in the cold rains of spring and the bleak winds and early snows of autumn, stock should have shelter. Colts, sheep and young cattle are not usually confined to the farm yard until winter is fully come. As they stand curled up by the fence during a cold, pelting rain, they are very uncomfortable, even if they do not contract disease that will show itself during the winter by a cough, running nose, and general debility.

Build a shed in the pasture, in a poor portion if convenient, and have here the salt trough, also a place to feed grain. Have the building so made that it can be closed, so as to control the stock, whether colts, cattle or sheep. If mostly closed, it will be darkened, so that there will be less trouble from flies in summer. Such a shed will be voluntarily used by the stock,—they will hasten to it in the storm, and will linger there during hot days. The adjoining portion of the pasture will be improved, and if bushes or brakes are abundant, they will diminish. The stock will be more gentle and be more easily controlled, a fact that will be appreciated by farmers who have been worried by wild colts, sheep and young cattle. Such a shed can be cheaply made, by setting posts in the ground and boarding upon them and making a roof of boards.

RURAL EMBELLISHMENTS,

AS A MEANS OF MAKING OUR HOMES AND NEIGHBORHOODS MORE ATTRACTIVE.

A taste for the beautiful should always be associated with a taste for the useful. It often happens with farmers that a piece of work may be left so as to be attractive to all who see it, and yet cost no more than it would standing as a deformity in the landscape. But, if it *costs* something, the beautiful should be one aim of the farmer in many of his operations. He values it in his oxen and cows, and especially in his horses. He takes pride in the lawn-like appearance of his mowing grounds, in the exact lines of his corn-fields and stone walls, and the furrows turned up to the sun and air.

Some farmers see all these with a glow of satisfaction, and yet live in the midst of disorder and decay. In his symmetrical animals he discerns a *money return* for the beautiful, but when that glittering bauble is not promised, the beautiful vanishes and there is no use in it! The taste has not been educated to cherish what is considered beautiful only in a few things. It sees beauty and order, only in those matters which minister to *pecuniary* gain. In the fine symmetry and action of a horse, it seems to realize future bonds, or shares in banks or railroad stocks. But the most beautiful rose that ever bloomed, or graceful woodbine which creeps over rocks and mounts trees to bring its scarlet berries to the sun, never kindled in him the emotions that were awakened by the prospect of an advantageous sale of the beautiful horse!

God gave the flowers and all plants a great variety of form and color. They might just as well, for aught we can see, been just alike in shape, so far as mere subsistence goes. But He saw fit to make his works beautiful as well as beneficent.

What can be done by farmers to make their homes and neighborhoods more attractive?

It is cheap and easy so to embellish our homes as to give them an air of taste and thrift and render them attractive. If the house has no paint, it may have a grape vine or climbing rose over the porch or a window. If some panes of glass are patched, the defect may be screened by a blooming heliotrope, fuchsia or verbena, in an earthen pot set upon the window sill or hung before the offending defect.

If there is no gravel walk to the door, there may be a rose bush or flowering shrub by the side of the cart path to the house, so that the dusty or muddy way be unnoticed in the contemplation of the beautiful flower or shrub.

Indeed, it is not the possession of money or much leisure that will render a farmer's home attractive, but that general appearance of order, good taste and economy which must pervade everything. His fences must be whole and not reeling; his door-yards clean; sink spouts or other offensive objects screened by groups of white pines, and here and there a graceful elm or a majestic maple, standing like guardian angels, with outstretched wings, to protect from summer heats or winter blasts.

Any person who can manage a farm has all the requisite skill to beautify it as far as our proposition goes. He will not confess that he does not know how to transplant a shrub, a vine or a tree. Hundreds will say they *have not the time!* Is this so? In our judgment every person has the time—farmer, mechanic, judge or minister. Few farmers say they have not time to *attend an auction*, where the cast-off trumpery of several generations is to be sold; or to bring home a wagon load of rubbish to increase that already about the doors, or torment the women by adding it to the stock already deposited in the garret!

The pleasure of making our homes attractive should be a gradual one. That pleasure is too valuable to be gratified lavishly. A little should be done, and well done, each year, and whatever is commenced be carefully attended to. The autumn of the year affords an excellent time to make a beginning. Suppose such had been the practice of all the farmers of the town in which you live for fifty years past, would not the town now present more rural attractions than any other in New England?

The first step to take is, utterly to abandon the old maxim, that

"Money makes the mare go,"

and learn the higher and nobler truth, that

The beautiful makes the soul grow.

But if acquisition of money is the prime object, that accumulation will be increased as the real beauty of the farm is increased; for profitable crops come from high culture, and high culture makes the earth blossom and become beautiful.

If circumstances require a sale of the farm, that which is most attractive in its general features, will usually command more money than one in a slovenly condition, although producing excellent crops.

The scenes of early life are usually deeply impressed upon the mind. If agreeable and attractive, they were the nursery of a patriotism that never dies, and so the *beautiful* pleases the eye, cultivates the affections, increases our wealth and makes us lovers and defenders of our country.

AGRICULTURAL COLLEGE BOYS.

We copy the following statement from the College Department of the Amherst, Mass., *Record*. It is encouraging that members of the Junior Class should succeed in securing seven of the eight prizes offered by an agricultural society for best essays on farming subjects; but is it not discouraging to contrast the sums they received, with those secured by the owners of fast horses? Is it an honor to the managers of our agricultural fairs that a horse's heels should be valued at more hundreds of dollars than a man's brains are at single dollars? "But the trotting draws." Yes, sir, it is drawing and will continue to draw the indignation and contempt of thoughtful and moral farmers.

The Hampshire Agricultural Society have awarded eight prizes for the best essays upon "Special and General Farming," seven of which were given to students of this College, and one to a gentleman of North Amherst. Mr. R. W. Livermore received the first prize for both classes of essays, \$1 each; Mr. F. M. Sommers the second prize, \$3 for general, and Mr. J. W. Clark the second prize, \$3, for special farming. The three gentlemen above named are members of the junior class. It was not generally known that prizes had been offered, and many of the students had never heard of it until after prizes had been awarded.

STALLIONS FOR COMMON LABOR.

There are very few geldings in France. The reason is, the stallions are not unmanageable, dangerous and vicious work-horses, but docile, obedient, easily managed and intelligent. There is nothing in the nature of things to prevent our having the advantage of the greater toughness, strength, spirit, fearlessness, safety (in being less liable to take fright,) freedom from disease, and longer serviceableness of the stallion over the gelding, were it not that we and our ancestors have so abused the temper of the horse, that his progeny exhibit, among the unaltered males, vicious and treacherous tempers, such as make them unsafe and unreliable as work-horses, even under the kindest and most uniform treatment.

The English thoroughbreds, unexcelled for spirit, endurance, fleetness and wind, are the most vicious of all horses. They came from

the gentle, docile, affectionate Arab. and it is only the training and abuse of the English stable boys and grooms, we verily believe, which have thus, in the course of generations, ruined the temper of the most noble of the breeds of horses. Its blood is infused through all our common stock, and to it we owe most of the characteristics for which we value our horses. Where thoroughbreds have been bred for generations under different treatment, as under the handling of the negro grooms and riders of the Southern States, their tempers improve, and extraordinary exhibitions of vice are rare among the stallions. The habit of using stallions is followed a great deal by French Canadians, who send to this country so many of the so-called "Kanuck" horses. These horses are small, close-knit and powerful, and when entire, tough beyond comparison. Wherever we meet with them, they are praised for easy keeping qualities, great endurance, and freedom from ordinary ills, and are seldom complained of as vicious.

Do we not, in our ordinary treatment, sacrifice a great part of the usefulness and serviceableness of the horse, in rendering him intractable, more liable to disease, and less intelligent and spirited? Is it not worth while to make experiments oftener of rearing stallions for labor, though it require more patience, gentleness and kindness on the part of those who handle them, and repeated floggings administered with a will, for any stable boys who dare to pinch or tickle, or to ruffle their tempers?—*American Agriculturist*.

LOOK TO THE INCREASE.

For two or three years past the owners of some of the largest flocks in the country have omitted to breed a large proportion of their ewes. As the supply of fine wool in our principal markets is generally admitted to have been in excess of the demand, such a course may have been a wise one—certainly much better than neglecting the flock altogether, and letting disease and casualties adjust the supply to the demand. But is it the part of wisdom to pursue such a policy any longer? We think not; and would urge every flock master, even though he should desire to still further reduce his number of sheep, to continue to breed all his best animals, and bring about a reduction by selling off the older and more inferior ones. Any other course will assuredly bring down the standard of excellence in quality of fleece as it will prove detrimental to constitutional vigor, and, as a consequence, increase the cost and labor of handling. Good rams can now be bought for their actual worth, and he who fails, because of any temporary depression in prices, to keep up the standard of his flock, may not realize what a mistake he has made until it is too late to rectify it, or recover from its consequences.—*A. M. Garland, in Western Rural*.

FEATHERS AND FOWLS.

The sale of the meat of fowls at this market during the late Thanksgiving week was not favorable to the interests of dealers, though we understand that farmers generally obtained fair prices for those sold at home. The weather was too warm and the supply too large for the middle-men, speculators or hucksters—whatever may be the name applied to those who buy poultry to sell again—and they will probably be a little more cautious in their purchases next season. But at the present prices of feathers is not the *fleece* of poultry stock an item of profit of more importance than it is generally considered to be by farmers? The other day we had occasion to price feathers at the upholstery stores in Boston, and found the retail price of the best quality of "live geese feathers" to be one dollar and ten cents a pound. The second quality seventy-five to eighty cents, and a pretty coarse article of mixed feathers fifty cents. On referring to the quotations of prices for geese feathers in the *NEW ENGLAND FARMER* for 1833, we found the price was at that time thirty-five to forty cents. At the same time wool was quoted at thirty-two to sixty cents a pound; flour, \$5.75 to \$6.12 a barrel; corn, 65 to 71 cents a bushel. With these remarks and the above illustration of aquatic fowls, we leave the subject for the consideration of those who raise poultry and pluck feathers.

WESTERN BUTTER.

Farmers and their wives, at the West and elsewhere, are no doubt answerable for many sins of omission and commission; but it is evident, we think, that they are not answerable for all that are laid to their charge. For instance, the *Prairie Farmer* gives the following account of the way in which much of the poor butter is produced, that is often as-



sumed to be evidence of the carelessness and ignorance of western dairy women:—

Several years ago we were applied to by a large shipper of fat lard and grease in Chicago, in relation to bleaching and deodorizing rancid butter, suet and tallow. The same individual wished also to become acquainted with the best means of combining fats of different degrees of consistency, so that they would have a uniform degree of hardness. Information was also desired in relation to improved methods of imparting to this mass an artificial color similar to that of grass-made butter.

On pressing our inquiries, we found that this seeker after practical information was the proprietor of a butter factory, and a very extensive one in its way. He was under but slight obligations to fat pastures or "kine with distended udders" for his supplies of the materials that were to be converted into butter balls. A very small amount of butter was used, "just to give a slight flavor to the mass," that was packed into tins or butter tubs and sent to feed the epicures of Gotham. To the best of our recollection, he stated that his usual shipment of this dainty amounted to two car loads a week. It was sold, he told us, in New York, as "second grade cooking or western butter." Much of it was disposed of to restaurants, where huge quantities of oysters, beefsteaks and mutton-chops were

served up to customers. The bakers bought largely of this sort of butter, as did the keepers of cheap boarding houses. He mentioned several of the most popular eating houses and hotels of the great metropolis as being numbered among his patrons.

Fat of all kinds was bought by this enterprising proprietor of what was probably the largest and perhaps the first operated butter factory of the west. The cleanest of the hard fats was sold to candle makers, the more dirty and rancid lots of the same class were disposed of to the manufactures of hard soap. The best material for butter making was found in the grease extracted from marrow bones. If it was sweet, and not discolored in the boiling process, it needed little preparation. If the contrary was the case, it was bleached to destroy the color and treated with chloride of lime to remove the disagreeable odor. If it was too soft it was tempered with firmer sorts of fat, as that obtained from suet. After this the desired color was given by the use of annatto and other substances.

For the New England Farmer.

CEMENT CISTERNS.

I was glad to see the article by "N. S. T." on underground cisterns and filters. Among his many good ideas, I find one which experience teaches me is not correct, viz: the idea that a cistern cannot well be made in ground of loose gravel and sand, without brick. I have made many cisterns in such ground; one, since I read his article, in ground which we could dig but about a foot without its caving, and yet we made it about a foot larger at the bottom than at the top.

Some five or six years ago, I made two cisterns in just such ground, seven feet in diameter, and twelve deep, from the top of the ground. They are in a barn yard. I frequently make two or more cisterns and join them together by running a pipe through from the bottom of one to the bottom of the other, instead of having a large one, with a large span of arch. It is cheaper to make a number of such small cisterns than one large one. The arches being small, require less material to make them, besides we get the water nearer the top of the ground, because a large arch has to commence far down towards the bottom of the cistern. What I was going to say about those two cisterns made in the barn yard, was that the man repaired his barns in the fall and did not finish in time for the fall rains to fill his cisterns. I went there in mid winter, and found no water in them, and only a stick of timber over the curbs to keep the creatures from falling in. I went into both cisterns and found the inch or so of water which the pump would not draw out, frozen to solid ice. Of course the walls of the cisterns were all frozen solid. When they thawed out they were as sound as ever.

Now, if the earth had been clay or loam, or if the cisterns had been made of brick, the cement would have been thrown off by the frost.

There is another great advantage in plastering directly upon such sandy and gravely ground. It saves moving a great quantity of earth. To plaster directly upon the earth we have only to move just the quantity of earth which is required for the capacity of the cistern; whereas to make a brick cistern, in such loose earth, we have to dig the whole depth of the cistern and begin at the bottom to lay the brick. To prevent caving, the top has to be dug three feet or so larger than the diameter of the cistern is to be. Then there is the cost of the brick, all extra, for it requires no more, if as much, cement to make a cistern plastered on the earth as one plastered on to brick.

I would not advise an inexperienced hand to undertake to make a cistern in earth which has been lately moved, or in wet ground.

The pipe of the outlet to the cistern should not connect with the sink drain, as the stench will pass into the cistern and injure the water; and should the sink drain happen to fill up below the junction of the pipe, the water from the sink would run back into the cistern.

A word in regard to cement. There is much poor cement in market. One of the worst kinds is that which contains an excess of lime. Such cement usually sets quick and appears hard and good at first, but in a shorter or longer time,—generally within thirty-six hours, the lime begins to slake and crack the cement, and in some cases, crumbles it as fine as ashes. To distinguish this cement, take enough to make a ball about as large as a butternut; wet it up into good mortar and make it into the shape of a pyramid, making the surface as smooth as you can. After it has become set, place it under water and let it remain thirty-six hours. If it cracks and falls to pieces, it is not good, but if it does not crack and the surface remains smooth and polished, it is good. A rough surface indicates inferior cement. Another peculiarity of some cement is that it shrinks slightly in setting, but otherwise it generally makes good hard work. This cement, when plastered on the walls of a cistern, will crack perpendicularly in about five places. When made into water pipe, the pipe will break square off every few feet. I know of no way to test this cement, till it is made into work. Cisterns plastered with such cement are easily repaired, by chiselling out a groove wherever the cracks appear, and filling and plastering over with cement. I never knew one to leak after being repaired in this manner.

There are various other qualities and peculiarities of cement, which require practice to distinguish. Properly managed, they generally will make a good cistern; if not, an additional coat of good cement will make all right.

Water pipe requires the best and strongest cement, and no one can successfully follow

the business, till he has become familiar with the various grades of cement.

B. LIVERMORE,
Cement Water Pipe Layer.
Hartland, Vt., Nov. 20, 1870.

EXTRACTS AND REPLIES.

FOULS OR FOOT-ROT IN CATTLE.

I have three cows that have the foul or foot-rot so badly that the disease has got up on the ankle, causing the leg to swell considerably. How shall I treat the disease when it first appears? how when it has got above the hoof and is of four weeks or more standing? and how shall I prevent its spread among my other stock? Any information on these points, or on the nature of the disease will oblige a young farmer.

Stowe, Vt., Nov. 19, 1870.

H. J. HARRIS.

REMARKS.—If the good people who are sufficiently "interested" in agriculture to talk and write eloquently of the exemption of the farmer from anxiety and care, were to take upon themselves the management for a single season of a flock of sheep or a herd of cattle with the foot-rot, or with any other of the numerous diseases and sicknesses to which stock is liable, such an experience would probably evaporate the poetry of the thing amazingly. In England the stock and dairy men have been much alarmed by a disease among cattle known as foot and mouth disease. It is regarded as contagious, and is characterized by pustules or blisters on the mucous membrane of the mouth, on the corners of the hoof, and in those places where the skin is tender or thinly covered with hair, as on the bags of milch cows. The symptoms are moderate fever, rumination ceases, and eating and swallowing appear to cause pain. But we do not suppose that your cows have this disease, still we apprehend it is something different from the old fashioned foul. This disorder was treated by cutting away all the soft and spongy parts and applying a caustic liquid, much as is usually done with the foot-rot in sheep, and afterwards covering the parts with a mild ointment, or wrapping and tying on a piece of fat bacon, and keeping the animal clean and quiet. To do this it is often necessary to cast the animal. A rope is frequently drawn back and forth between the claws to clean them; but all this is much easier said than done.

Since the discovery of carbolic acid, it has been used as a wash for this and a great many other sores and eruptions. In England in the treatment of the foot, and mouth disease, a wash of eight grains of lunar caustic to an ounce of water is used, as well as lime water, and a solution of carbolic acid, after the use of the knife, as above directed. A poultice of linseed flour is also used.

We have made these general remarks rather to draw out the experience and management of those familiar with the disease than with the hope of answering your inquiries satisfactorily. We are in doubt as to the nature of the disease. The

books tell about the Foul in the Foot being the result of feeding in wet pastures, or standing in filth. This does not satisfy us as to the disease among us, either with cattle or sheep. May it not result from causes similar to those which produce Black-leg? For this disorder Prof. Law recommends the use of carbolic acid internally and externally. And with our present information we should be disposed to use a wash of this—perhaps a strong suds of carbolic soap would answer, as the first remedy. When one animal in a herd has had the black-leg, Prof. Law advises that each animal should have two drachms of carbolic acid diluted in a pint of water thrown over its food.

We have thus frankly confessed our ignorance of the disease and of its proper treatment. Who will favor our correspondent with his knowledge of the subject?

LAYING LAND TO GRASS.

I have a piece of land of about two acres. In 1868 about 28 loads of manure were spread on to an acre, making about fifty-six loads on the piece. It was planted to corn with from one-third to one-half shovelful of manure in the hill; then, when manure failed, a table spoonful of phosphate to the hill. The result was a good piece of corn. I sowed the wheat in 1869, and seeded down to grass, but the clover proves to be Southern. Now if I should, next spring, say the 6th or 8th of May, plough in the clover and plant to corn without any manure, except a little in the hill, would the clover enrich the ground sufficiently for a good crop and would it leave the soil richer after taking off a crop of corn than now?

I have some acres of land that after mowing a few years runs into June or white grass. Would not lime, slaked and sown broadcast, when re-seeding, be beneficial in keeping out the white grass, and if so, how much to the acre? M.

Corinth, Vt., Nov., 1870.

REMARKS.—Undoubtedly, the roots and stubble of the clover would enrich the soil, but it is questionable whether it would bring a good crop of corn. If you do not like the Southern clover, why not top-dress as liberally as you can any time this winter, and early in April sow northern clover seed and go over the field with a brush harrow? This will save ploughing, levelling and harrowing, and if the land is not weedy, will give you a crop of clover next summer. If weeds and clover should come together, cut early before weeds ripen their seeds, and if the soil proves a moist one, you may cut two or three times. This last summer we mowed a field four times where weeds seemed determined to take possession, and now, Nov. 9, the surface is covered with vigorous grass roots and not a weed to be seen.

With regard to your second inquiry, concerning the use of lime, there can be no doubt, we think, that the lime would be useful to the soil, especially if the soil has been cultivated for many years. We do not think, however, that it would prevent the appearance of what you call the "June grass."

The probable reason why the grass "runs out," is, that the fertility of the soil is not kept up by

manuring, while heavy crops are annually, perhaps twice in a year, taken off. The herdsgrass and redtop roots—not being well fed—become weak and die, and nature, hating a blemish in her works, supplies the waste places by the more hardy June grass.

Now, if land is in good condition when stocked with grass, two crops, and sometimes three can be taken from it and leave the roots healthy and vigorous. Then if top dressed in the autumn just before heavy rains set in, two or more crops may be taken off and leave the roots as strong as they were the second year. In this way, heavy, moist lands may be kept in grass for many years, if not perpetually.

A HOG THAT WON'T EAT, AND ACTS QUEER.

I have a hog about seven months old that did well until I commenced feeding him with meal. Since then he will come up to the trough, stick his nose in his food, and leave for his nest where he will sometimes sit up for hours. Occasionally he will start and go around his pen as fast as he can. I have changed his food, giving him different kinds of meal, and tried every thing I could think of, but without any favorable result. If the editor or any of the readers of the FARMER can tell me what to do, I shall be much obliged by the information. The FARMER comes every week, and I should as soon think of getting along without a plough as the paper. I have tried eight or ten different agricultural papers and am better pleased with the NEW ENGLAND FARMER than with any of the others. AN OLD READER.

Barre, Mass., Nov. 26, 1870.

REMARKS.—The hog is about as contrary in sickness as in health. Sometimes he will eat and grow, and sometimes he won't. It might be well to turn him into a pasture or lot, if you can do so, and see if he can't find the medicine that his instinct teaches him is suited to his case. If you cannot do that, give him ashes, soot, coal, sulphur, salt, sods, soil, weeds, roots, twigs, rotten wood, chip manure, a few beef scraps, &c., and see which he likes best. Perhaps the change of food at the time you commenced feeding meal caused constipation or some other irregularity of the digestive organs; and, perhaps, something else ails him. Who will tell and advise our correspondent?

RING-BONE ON HORSES.

Will you please tell me if there is any remedy for ring bone in horses? If so, what is it? I have a young and valuable horse which has a ring-bone that I would like very much to cure. It is now about three months since it first made its appearance. SUBSCRIBER.

Pelham, Mass., Nov. 21, 1870.

REMARKS.—The veterinary books agree both as to the cause and treatment of this disease. We copy what Dr. McClure says of it in his new book on the diseases of the horse as most likely to embrace the latest information on the subject. He confesses that ring-bone is a serious affliction. "It consists of a circle of bone thrown out from the underlying bone. Sometimes, in addition to this, the cartilages of the foot are converted into bone,

and laid in the form of a circle; and hence its name, ring-bone. It is most common in the fore legs of heavy, coarse-bred horses, with short and straight up pastern-joints. When it occurs in fine-bred horses, it is usually the hind leg which is affected. Ring-bone does not always cause lameness.

Cause. Hereditary predisposition, from a peculiar formation of pastern-joints, which are found not well adapted to hard work; and hence, an effort of nature is set up to strengthen parts which are too weak, by converting an elastic substance into a hard and unyielding mass, and a moving hinge into a fixture.

Treatment. If it is of recent origin, and the horse is young, much may be done in the way of a cure, by first removing all heat and inflammation with cold water cloths wrapped round the parts for three days, taking them off at night. At the end of that time, get one drachm of the biniodide of mercury, mix with one ounce of lard, and apply one-half of the salve by rubbing it in well for ten minutes. Tie up the horse's head for a few hours, and the next day wash off with soap and warm water, daily anointing the parts with lard or oil for a week; then apply the remainder of the salve in the same way, and proceed as before. In old horses, not much can be done with ring-bone, as the bones of old animals contain so much earthy (lime) matter that nothing can act upon it."

LAXITY IN A HORSE.

Please tell me through your paper how to feed a horse to prevent laxity, when on the road, supposing present feed be dry. Cannot something be added which will remedy this trouble?

Haverhill, Mass., Nov. 21, 1870. SUBSCRIBER.

REMARKS.—Possibly too dry food has caused the derangement, and it may be well, contrary to what might at first be thought reasonable, to give the horse roots or some more succulent feed. Perhaps the following directions for treatment of diarrhoea, in Dr. McClure's new book on the diseases of horses, may afford you hints that may be of service in your case.

"First, give twenty to twenty-five drops of the tincture of aconite root in a little cold water. Then give the following powders every two hours, until a change for the better has taken place:—prepared chalk, half an ounce; catechu in powder, one drachm; opium in powder, ten grains. Allow the animal plenty of water to drink."

Rice boiled quite soft may be fed if the horse will eat it; or a thin gruel of wheat meal. Rice water may be used exclusively for drink.

TREES BY THE ROADSIDE.

How many of the readers of the NEW ENGLAND FARMER have trees set in their highways? In Germany, all the highways are, by a law of the land, set to some of the more valuable forest trees, and much beauty and comfort are afforded to the traveller both summer and winter. If there is anything that the generations coming after us

would thank us for, it would be for the cool shade of trees in summer, set out and growing by the roadside. Now is the time to set them out. I have near two hundred growing on my highways at a cost of less than fifty dollars, and certainly two hundred dollars would not buy them.

T. L. HART.

West Cornwall, Conn., Nov., 1870. •

FOULS OR FOOT-ROT IN CATTLE.

We should have appended the following statement to our remarks, if it had come under our eye at the time we replied to the inquiry of Mr. Harris, in our last paper. It may not be too late to be of some service to him and to others, whose stock may be similarly affected. The writer in reply to a question by another correspondent says:

I applied nitric acid to kill the disease, and carbolic acid to heal the sore. The latter I mixed one part acid to three parts of lard, for an ointment; and for a wash mixed more of the acid with water in the same proportions as with the lard. The lard should be melted, the acid put in, and then stirred until cool, as otherwise they will not unite.

My treatment of the sore was as follows: After washing thoroughly with strong soap suds, I applied the acid and water sufficiently to touch all parts of the sore, and then applied the ointment. I then covered a cloth with tar and bound up the foot for the purpose of keeping the air from it, the acid being exceedingly volatile. A little bathing, with a cabbage leaf and cloth, would answer the same purpose equally well or better.

The ointment should be kept in a closed vessel, a fruit jar answers a good purpose, and the wash corked. One or two applications of the nitric acid after it can reach the sore, are sufficient. I am of the opinion that the carbolic acid alone would be sufficient to interrupt the disease and effect a cure. Since I began to use the carbolic acid, I have had no new cases, and therefore have not enjoyed the opportunity of testing its efficiency alone. But it works like a charm in cleansing the sore, and thus affords nature a good opportunity to heal the wound.—W. B. Riggs, Palmyra, N. Y., in *Ohio Farmer*.

HARD AND DRY FEET IN HORSES.

I would like to say to the gentleman that wishes to know what to do for a horse's feet that have become hard and dry, so that the horse is lame,—that if he will take some clay and put it into a box some three to four inches deep, and moisten the same with kerosene oil, and let the horse stand in it while in the stable, or even wet the hoofs three or four times a day, it will make them as soft as ever.

This was told me by a great horse doctor and tamer. I should like to have him try it and report the results. But the question with me is, whether the hardness and dryness of the feet are not the effect of some disease, which, as you say, is shrouded in mystery. If we could get at the cause and remove that, it would be much better than to doctor the effect. But there may be some principle in the kerosene that may have a tendency to remove the cause, as well as soften the hoof.

Keene, N. H., Nov. 28, 1870.

c.

Having had something to do with horses with pinched feet, I would say, that I have improved them very much in three months time, by simply paring the hoof very thin, even until the blood starts through the hoof, then have them shod by a good blacksmith, and fill the shoe with warm or hot tar, and mixed with horse dung, to keep the

tar in place; also wash the feet with saltpetre and water, which will cool them. The tar mixture must be applied as often as it falls out. This treatment greatly adds to the comfort and improvement of the animal.

H. R.

Bethel, Me., Nov. 28, 1870.

DEEP PLOUGHING.

With considerable interest, I have observed the discussions on *deep ploughing*. Different writers seem to vary much in opinion. But it may be that all their differences would disappear if the conditions were properly considered. If the land is a fine, loam soil, several feet thick and of nearly equal richness, it may be presumed that no one would object to running the plough one foot deep, or even two feet, if possible.

I think, both theory and experience agree in the conclusion that there is no danger of pulverizing the earth too deeply, or too finely, for the best results in the production of vegetables. But in this, as in every thing else, differing conditions require corresponding changes in action.

Every cultivator knows it is useless to turn two or three inches of hard clay subsoil over a few inches of loam, with the expectation of getting much of a crop, even though manure be freely used. If he does not know it, a few experiments will fully satisfy him.

It is probably about impossible to bring thin land into a high state of cultivation at once. But where clay predominates, and sand is easily obtained, by mixing the two together in proper proportions, with sufficient manure to make a rich loam when combined with the natural top soil, all the evils of deep ploughing will be obviated, and the best results obtained. I have seen land which had been nearly worthless, made very productive by such treatment.

Some land, however, cannot be so treated, because the subsoil is a hard gravel, composed of stones and clay or sand, or all three combined, in so compact a mass that it cannot be ploughed. Still such land may be made to produce large crops of excellent hay, by proper treatment, if the means are at hand, if not, it had better be let alone. I think the same remark will hold true of all deep cultivation. Every inch of pure clay or sand which is brought to the surface, is a damage to the crops, unless well mixed with loam and fertilizers, or my observation has been greatly at fault. If the last named condition can be properly secured, I think deep ploughing is sure to pay.

Florida, Mass., Nov. 28, 1870. JACOB DAVIS.

SEED POTATOES.

I saw in this week's *FARMER* an experiment of A. W. Hamilton, Superintendent of the Experimental Farm, Indiana, Penn., reported to the New York Farmers' Club on seed potatoes. This report will I suppose have a large circulation, and may I fear mislead many farmers.

The report should have given the *value of each* production, as well as the weight. I am led to say this much from having tried the same experiment myself. With me the one big potato produced two or three large, and *quite* a number of small potatoes, while the middling sized and the cut, gave more marketable ones, and consequently the most valuable production.

N. P. Cram.

Hampton Falls, N. H., Nov. 25, 1870.

TOBACCO IN WESTERN MASSACHUSETTS.

Buyers have commenced looking at the lots in this vicinity, but are not making many bids. It is feared that prices will not quite come up to last year. It is said that some lots have been purchased in Ohio at twelve cents per pound, through.

Farmers here are demanding twenty-five cents. Some are commencing to strip, and not much is found to be damaged in drying, though some white stripes appears. Why do not manufacturers buy directly of farmers, and have it sorted as they wish; or might not bonded warehouses be established in Boston and other cities?

Westfield, Mass., Nov., 1870.

POISON IVY.

"A correspondent writes us that whenever he comes near the poison ivy (*Rhus toxicodendron*) he plucks a leaf and bites it, and says this is a non-preventive of any evil effects from it. Some persons, however, are so sensitive to this poison that we fear serious results would follow the first attempt to put this in practice."

I cut this from a Western paper. Probably the correspondent who makes use of this homeopathic "non-preventive," is, like myself, entirely unaffected by the poison ivy. Several years ago, while huckleberrying, I handled the poison ivy quite freely, and returning home washed my hands at the kitchen sink. I myself was not in any way affected by the poison, but my mother, who happened soon after to use the same towel, was so severely poisoned as to lose her eyesight for several days. However efficacious "a hair of the dog that bit you," may be as a remedy, I should hardly like to prescribe it, in all cases, as a prophylactic.

Boston, Nov. 18, 1870.

GEORGE.

EASTERN VIRGINIA.

In reply to the many persons who have written to me for information in relation to prices of land, health of the people in this tide-water portion of the State, I would say through your columns that I am little acquainted with matters out of my own neighborhood. Within a few months the following sales have been made within a circle of two or three miles of my residence. Several hundred acres of the Scaford estate, off the water, without improvement, at \$15 00 per acre; several hundred acres of the Burke estate, at same prices; two to three hundred acres of Dr. Tabb's estate at same price. All the above without improvements. Oakland 200 or 300 acres at \$18 per acre, improved—very low. Cedar Lodge, about same size, improved, \$35 per acre. The three last lie on the river. Other properties are in the market; one of some 300 acres on the water, beautifully situated, offered at \$35 per acre; another unimproved, plenty timber, excellent oyster shore, worth more probably than the land, at \$22 per acre.

As to health, there is very little of lower Virginia that is not subject to autumnal fevers and chills. A considerable portion of Matthews and a part of Gloucester counties are as healthy as any portion of New England, and I think a good deal more so. Our land is thin and sandy, but takes improvement very kindly, and is peculiarly adapted to fruits, such as apples, pears—that can't be beat—peaches, grapes, figs, &c. No use in writing to me. Come for yourselves, via Norfolk.

SAM'L CLARK.

Hick's Wharf, Matthews Co., Va., Nov., 1870.

CHEESE FACTORY IN NORTH CAROLINA.—Specimens of fine cheese made by W. S. Cornell, formerly of Ithaca, N. Y., at a factory in Buncombe County, N. C., were recently exhibited to the New York Farmers' Club. Mr. C. unhesitatingly pronounces that section of western North Carolina having Asheville as its centre as, in his opinion, the best cheese-making section of the United States,

The region alluded to by Mr. Cornell has a length of over 150 miles, and average breadth of 50 miles. The soil is a black loam, rich in potash and vegetable matter. There are hundreds of locations as good as Mr. Cornell's for cheese-making, and land is cheap. This factory is on Elk Mountain, four miles from Asheville, and is about 4000 feet above the sea. Last summer the thermometer did not go over 80 degrees, and the climate is favorable to consumptives.

PATENT ON FRUITS AND VEGETABLES.

We have received a circular from George Haskell, of Ipswich, Mass., enclosing a proposed bill to be passed by Congress into a law "to encourage the production of new and valuable fruits and plants," together with the form of a petition for the signatures of those who favor the passage of such a law.

The following sections of the proposed law will indicate its character. The omitted sections relate mainly to details:—

Sec. 1. Any citizen of the United States, or any person resident therein, who hath been or shall be the originator or discoverer of any new and valuable plant, being a new variety of any fruit, grain, herb, root, tree, wood, or flower, and which shall not have been sold or publicly offered for sale by the originator or discoverer, and his executors, administrators or assigns, shall, upon complying with the provisions of this Statute, have the sole right and liberty of propagating and selling such plant for the term of twenty-eight years.

Sec. 2. [Provides for a continuation of this period for fourteen years, after the expiration of that provided for in section one.]

Sec. 11. The provisions of this Statute shall apply to the propagation, increase, or multiplication of any protected plant by cuttings, buds, scions, slips, offsets, tubers, layers, roots, and in every other manner except the propagation thereof by the proper seed.

Sec. 12. All actions, suits, controversies and cases arising under this law shall be originally cognizable as well as in equity as at law, whether civil or penal in their nature, by the Circuit Courts of the United States or any District Court having the jurisdiction of a Circuit Court or in the Supreme Court of the District of Columbia or any territory. And the Court shall have power upon bill in equity filed by any party aggrieved to grant injunctions to prevent the violation of any right secured by this law, according to the course and principles of equity, upon such terms as the Court may deem reasonable.

Sec. 13. A writ of error or appeal to the Supreme Court of the United States shall lie from all judgments and decrees of any of said Circuit or District Courts in any action, suit, controversy or case under this law, in the same manner and under the same circumstances as in other judgments and decrees of such Courts, without regard to the sum or value in controversy.

Sec. 14. In all recoveries under this Statute, either for damages, forfeitures, or penalties, full costs shall be allowed thereon.

The circular says, "If you think this or any similar law for the protection of horticulturists desirable and just, it is hoped that you and your

neighbors who concur in that opinion will petition Congress therefor."

Without claiming to have investigated the subject very thoroughly, we have read many of the arguments that have been advanced for and against the passage of such a law as is proposed; and as at present informed, we might sign a remonstrance against, but not a petition for any legislation that would give individuals a patent right to fruits and flowers, plants and vegetables.

We have a great dislike for litigation, and the immense number of law suits that arise under our present patent laws, warn us of the consequences that would result from giving to pettifoggers, speculators and sharpers the broad field which the proposed enactment would open to them. Though the inconveniences which must result from giving to any man, as "originator or discoverer," a monopoly of "any plant, being a new variety of any fruit, grain, herb, root, tree, wood or flower," are sufficiently obvious, we presume that these printed petitions will be extensively circulated, and from what we know of the readiness and carelessness with which men lend their names in such cases, we do not doubt that they may be numerous signed. We hope, however, that Congress will hesitate before it puts our fruits and our flowers, our herbs and our trees, our roots and our woods, among the "patent articles" already so numerous in the kit of the speculator.

PREMIUM CHEESE.

At the late Fair of the New York State Agricultural Society the premium on Cheese was awarded to that made at Dr. Wright's Factory, Whitesboro', Oneida County, N. Y. The process of manufacturing was stated by the proprietor, as follows, and published in the *Rural New Yorker*:—

Preparation of Rennets for Use.

Three earthen jars are procured, numbered and placed in a line, three days before the preparation is needed. In number one, as many rennets are placed as are found by experience to be needed each day, which is about one good rennet for each vat of milk of 4,000 pounds. A small quantity of sour whey, and one-half pint of salt is placed in the same jar.

The next day these rennets are rubbed out, and placed in jar No. 2, with whey and salt. The third day the rennets in No. 2 are rubbed out and placed in jar No. 3, with whey and salt, and those in No. 1 are placed in jar No. 2, and the same number of fresh rennets are placed in jar No. 1.

We now use the liquid from jar No. 1 each day, at the same time rubbing out the rennets and putting them in the other jars as before, and dipping the same quantity of liquid as used from jar No. 3 to jar No. 2, and from jar No. 2 to jar No. 1, each day putting the same

number of rennets, into jar No. 1. and the same quantity of whey and salt in jar No. 3. The rennets in jar No. 3 are rubbed out and removed every few days.

Mode of Making Cheese.

The night's milk is drawn into the vats and cooled to 65° by Austin's Agitator and running water. The morning's milk is run into the vat, and the whole heated to 84°, when the rennet and annatto are stirred in.

As soon as the coagulated milk will break smoothly over the finger, and before it is very hard, cut and cross-cut, but rather coarsely. Heat by dry steam to 96° or 98°; in the meantime, stir with rakes to prevent packing. Let it remain until the whey is slightly acid. Draw off the whey and pack the curd on each side of the vat to drain, air, and acidify.

Next cut the curd in square pieces and reverse those next to the side of the vat, placing the others on them also reversed. When the curd is quite acid, pass it rapidly through a curd mill, using steam power, and immediately salt, using from two to two-and-a-quarter pounds of salt to one hundred pounds of curd, thoroughly incorporating the salt, and put to press directly.

Press twenty-four hours, and remove to the curing house, turning daily for three weeks, and then every other day. Sell when from thirty to forty days old to good judges and responsible men, for the highest price cheese is going for in Oneida county.

THE TENNESSEE FRUIT KILN.—Any man can make it in a day who has the stone, and on it he can dry about one bushel of dried apples per day. It is built of stone, laying the walls 10 inches high, and four feet wide, leaving a place for smoke to go into the chimney at the back end. A few pillars are put through the centre so as to hold up the top stone; that leaves two places for fire. It is covered with stone two or more inches thick; upon that two or three inches of thick mortar is laid, so as to make a firm body that will hold the heat. After it is dried, a bushel of slaked lime, with very little sand in it, is spread evenly over the top; that will become hard; the fruit is spread upon the top.

As to length, people can suit themselves, but eight feet is a good length; then the heat can be kept more uniform. The fruit dries very fast. It requires to be filled morning and evening. This way saves a great deal of time to the women, and it dries the fruit faster, so that the flies and bees are not of any trouble. If any one tries it once, they will never do without it while they have fruit to dry.—*Ohio Farmer*.

—The civilized Indians of Oregon raised 300 bushels of wheat this year.

NEW JOINT OR BRANCHING CORN.

All careful farmers are aware of the fact that the number of ears, early maturity and general productiveness of corn can be increased to some extent by judicious selection of seed. Whether such improvement has as yet reached its limit, is a question which few farmers probably are prepared to answer in the affirmative.

The above cut represents what is claimed to be the results of experiments in selection and propagation conducted with greater care and perseverance than most farmers have patience to carry out, by E. O. Judson of Cuba, N. Y. He has been equally successful with the yellow, sweet and pop varieties. We have seen a single stalk of his field or yellow corn with eight ears, which together measured sixty-one inches. Samples of the stalks with the ears on them as they grew can be seen at the seed store of Whittemore, Belcher & Co., 34 Merchants Row, Boston, who have the seed for sale. Here specimens can be seen and all the information we possess obtained.



COARSE WOOLS IN LARGE FLOCKS.

In reply to a request for his experience with long wool sheep, Mr. Ira S. Haseltine, of Richland Centre, Wisconsin, and a breeder of high standing, writes as follows to Hon. H. S. Randall, as published in the *Rural New Yorker*:—

About five years ago I sold my flock of about 2000 Spanish Merinos, (which I had handled successfully for several years,) and purchased about five hundred Cotswolds, Leicesters and Lincolns, in Canada, and took them to my place in Richland county, Wisconsin. I have kept them in different-sized flocks at different times, according to size of pasture in summer and convenience of feeding in winter. I find they will not do well on wild prairie grass, or timbered land pasture, like the Spanish Merinos. They do well on good English grass pasture in summer, and shock corn with timothy hay in winter.

I kept three hundred in one flock during one winter; I fed them shock corn and timothy hay; they wintered very well. They had

an open shed for shelter. I am satisfied that the Spanish Merinos will do much better in large flocks than the long-wooled sheep of any kind, either during summer or winter. I now keep about 1000 sheep of the different kinds, and breed them separately. I like the long wools best for raising lambs, as they are much better milkers; I also like them much better for mutton. I like the Spanish Merino best for subduing wild pasture, and for rough usage in large flocks.

Cashmere Goats.

I also keep a flock of about one hundred Cashmere goats, which are more hardy and better breeders than any other wool bearing animal. They live upon browse both summer and winter, and cost me no hay or grain to keep them whilst they are permitted to run in the woods. I have kept them for five years, and am much pleased with them. They are valuable for their wool, their milk, their meat, and their skins for robes. Their milk is particularly valuable for consumptive persons and children while teething.

—A farmer in Iowa has harvested his barley on the ninetieth day after sowing.

OUR WINTER SCHOOLS.



FROM the early settlement of New England parents have ever manifested a deep interest in the proper education of their children. The winter term of many district schools is now about to be commenced.—Parents should not only use their influence to secure for

their children the best teachers, but should see that they have all the books

and apparatus that will aid them in their studies. This will cost considerable. But the cost of education, as well as of living, has much increased of late. The modern system of teaching requires more books and other appliances than the system formerly pursued; but the education of our children is the last department in which we should economize. A good education is the best investment we can make for them—the best inheritance we can leave them. We must keep up with the times and conform to the fashions of the day. It will not do to complain that schooling costs more than it did when we were children, that different studies and different methods are pursued, and to say that we did very well on the old plan. The world is moving, whether it is improving or not, and we must move with it, or we shall be left behind in the race.

There are some very important differences between the schools of to-day, and the schools of forty and fifty years ago. Female teachers have taken the place of the male teachers in our winter schools as well as in the summer schools. Our normal schools and our high schools have trained female teachers for the work of teaching, which has now become a profession. Females now have higher wages than males formerly had. They have spent three or four years in fitting themselves for the work. They have to pay at least twice as

much for board, and other expenses are in proportion, and they are in general more thorough teachers than males formerly were, and why should they not be paid in proportion? Instead of attending school five or six months in a year, children now attend nine or ten months; and with better books, with the black-board and other apparatus, they go over the course of elementary instruction by the time they reach the age of fifteen or sixteen years, when those who are not going to study professions or prepare themselves for teaching, consider their education completed. Formerly lads of fourteen or fifteen left the schools in the summer, and worked on the farm or in the shop with their fathers, and attended school in the winter until they were eighteen or twenty. The same course was pursued by many young women. There were some advantages in this. Their minds were more mature. They were capable of thinking and reasoning. They understood better what they studied. Probably the last winter of their attendance, when they generally reviewed what they had previously studied, was more useful to them than any two years which had gone before, owing chiefly to greater mental maturity.

Now all this is changed. The young men who remain at home on the farm, do not attend schools taught in the winter by females. A large proportion of the boys leave home for the city, or the mill, or workshop, at sixteen. If they do not, they spend the winter in some city mercantile school, attending to penmanship and book-keeping, to fit them for the counting room; or in the schools of technology or science, to fit them for some scientific pursuit or for engineering, or some other business than farming.

There is a much greater demand for instruction in the Natural Sciences than formerly. Unfortunately this demand has sprung up just at the time when female teachers have occupied the desks in all our schools. They have not been trained to teach the sciences. The teaching in the normal schools even, does not fit them for this work. Here is a defect in our school system, which must be met by a more scientific training of female teachers, or by restoring male teachers to a portion of our public schools. Males seem to have a greater facility to acquire and impart a knowledge of the natural sciences than females, owing

doubtless, in some degree at least, to the more practical direction that has been given to their powers of observation, and to their application of observed facts.

The theory of our school system is that our high schools are to furnish free instruction in all the higher branches previously taught in academies and special schools, at so great expense to the scholars, that only the children of the more wealthy could enjoy the privilege of such instruction. Owing to the change in teachers, and to the greater demand for instruction in the natural sciences, especially such as will fit young men for engineers and skilled workmen in the mechanic arts, this theory fails in practice. Our high schools were established to impart classical instruction and fit young men for college. But this is found to require too great a proportion of the time and labor of teachers in public schools. A class of two or three boys fitting for college, in a school of fifty scholars, requires at least two hours daily of the teacher's time, leaving but four hours for the remainder of the school, which is obviously unjust. Instruction given in schools wholly devoted to classical studies, is, in the nature of the case, better than can be given in our high schools, where the attention of the teachers is given to instruction in a variety of branches. Hence very few boys go from our high schools to college. They must all spend from one to two years at some classical school, or under private tuition. Those who need scientific instruction, spend the last year of school life at the school of technology or some other scientific school. Our system then fails in this respect.

We would not say a word against our free schools. They are the glory of New England. To them are due in great degree, the character and prosperity of our people. They are preparing thousands of our young men and women, who never go to any other schools, for the business of life, and the duties of citizens. But we must not expect too much of them. If we expect them not only to lay the foundation of a good education, but also to impart a knowledge of the classics, and of the higher branches of science to our children, by the time they are fifteen or sixteen years of age, we are clearly expecting that which is impossible.

We have been often asked why classes can-

not be instructed in agriculture in our common schools. We answer, briefly, because the scholars are not fitted to receive such instruction, and because the teachers are not fitted to impart it; and if they were, neither have time for it, without neglecting other branches of instruction which must necessarily precede this to fit them for a proper understanding of its principles.

In the common school, instruction must be confined chiefly to such knowledge as is wanted in common by all the pupils. Let a good foundation be laid, and then a knowledge of special branches must be acquired in schools especially designed to teach them, or from practice and books which treat of such subjects. Attempts to impart instruction beyond the capacity of the mind, is but little better than labor lost. Want of capacity may be owing to want of age, or want of previous instruction.

A felt want among a free people sooner or later works out a supply. The want of instruction in special branches of study, which it was felt that our common schools could not supply, has led to the establishment of schools of design, of music, of chemistry, of mines, of engineering and other special branches, including agriculture; and it is about as wise to expect our common schools to furnish instruction in such special studies as in law and medicine.

Let us be contented to use our common schools for what they are intended, and for what they are capable of doing, and not spoil them by attempting to force them to do a work which they can never do.

ASIATIC FOWLS.

Some twenty-five years ago, when the Asiatic breeds of fowls made their appearance among us, we were upon the verge of *hen feverism*, and the buff Shanghai gave it the impetus. When first introduced they were a large, yet compact, short-legged bird, and were received by farmers as a very desirable fowl for market purposes; but soon the fanciers, "taking for their stand-point, size alone," commenced breeding for that desideratum, producing a long-legged, coarse, ungainly fowl that could easily look down upon the top of a flour barrel, or take their corn from a four foot post; the bones of such fowls were found to weigh more than their flesh, until attaining the age of twelve months; the pullets not laying until six and seven months old.

Therefore the boarder at the hotel would not eat them; the hotel proprietor refused to purchase them; the butcher could find no sale for them; the farmer would not raise them, and the country at large cried them down, until the old Shanghai fowl was in oblivion.

Now, at the present time, we notice the same spirit manifest in the breeding of Light Brahmas. Agricultural fairs and poultry shows are favoring size much to the detriment of other points more requisite to a profitable fowl; and our fanciers are endeavoring to increase the size by selecting, as breeders, large, coarse, long-legged birds. If this course is continued, we shall soon have in form and worthlessness a second tribe of Shanghai fowls.

For profit in market fowls and as egg producers, give me the compact, short-legged Brahma that will mature to laying at four and five months old, and the young fowls, when dressed, are not all legs and bones. I have bred the Light Brahmas in purity for the past twenty years, from 200 to 400 annually. My young cocks hatched in March, when ten weeks old, sell readily, at that early season, in Boston market at \$1 each; and my pullets, when high fed, lay at four and five months old. Of all breeds yet introduced the Light Brahma stand No. 1. JOHN S. IVES.

Salem, Mass., Oct. 3, 1870.

For the New England Farmer.

MEDICAL TOPICS.

BY A MEDICAL MAN.

POISONS;

THEIR SYMPTOMS AND TREATMENT.

Poisons are substances of an animal, vegetable, or mineral nature, which, when administered in small quantity, are capable of producing deleterious effects on the animal economy. Such substances are arranged, according to their effects, into three classes, viz:—

1. IRRITANT POISONS, or those which produce irritation and inflammation.

2. NARCOTIC POISONS, or those which produce stupor, delirium, and other affections of the nervous system.

3. IRRITATING NARCOTIC POISONS, or those which produce both irritation and stupor.

Writers on *Toxicology*, or the science which treats especially of poisons, describe each article, its effect, its antidote, &c., under the name of the particular class to which it belongs; but, for the better convenience of the reader, we will mention them in alphabetical order.

ACETIC ACID.—This is an irritant poison, derived from the vegetable kingdom; it is the basis of good vinegar.

Symptoms.—Great heat and burning pain in the stomach, convulsions, and death.

Treatment.—Give magnesia, soda, or saleratus mixed or dissolved in water. Copious draughts of warm flax-seed tea, or of warm water may be given afterward.

ACONITE.—The *Aconitum napellus* or Monkshood is a narcotic poison when an overdose is taken.

Symptoms.—Stupor, numbness, desire to vomit, delirium, convulsions of different parts of the body, palsy of the limbs, variable pulse, quick respiration, general convulsions, and death.

Treatment.—The stomach must be effectually evacuated by means of a stomach pump, or by emetics of ground mustard-seed, or of white vitriol (*sulphate of zinc*.) After this has been effected, copious draughts of warm flax-seed or slippery-elm tea may be given, followed by strong coffee, once in twenty or thirty minutes, to which a few drops of aqua ammonia may be added.

ALCOHOL.—This article is the product of fermentation, and is the intoxicating principle in all fermented and distilled liquors.

Symptoms.—General excitement, more or less, confusion of intellect, sleepiness, delirium, nausea and vomiting, coma, and apoplexy.

Treatment.—See Aconite, Opium, &c.

AMMONIA—Hartshorn. This is a corrosive mineral poison.

Symptoms.—Excoriation of the mouth and throat, burning sensation in the throat and stomach, vomiting and purging; the ejected matters oftentimes being bloody.

Treatment.—Administer, without delay, vinegar or some other vegetable acid, or, give repeated doses of some fixed oil, as olive, linseed, or castor oil.

ANTIMONY.—The only preparation of this mineral by which poisoning is apt to be produced, is Emetic Tartar (*tartrate of antimony*.)

Symptoms.—Violent vomiting, burning heat in the stomach, severe griping pain in the bowels, and purging, hiccough, a small and rapid pulse, fainting, great prostration of strength, coldness of the surface, cramps in the legs and feet, &c.

Treatment.—If vomiting does not occur speedily, it should be encouraged by tickling the throat with a feather, or with the finger, and by administering copious draughts of warm water. Strong astringent infusions should be given, such as an infusion of oak or hemlock bark, gall nuts, or green tea.

Wine of Antimony, Nives Syrup, and several of the Cough Syrups, Cough Drops, &c., so much used by mothers and nurses, contain tartar emetic, and children have been poisoned by them. In such cases, the treatment should be as above prescribed.

ARSENIC—Ratsbane. This is a metallic irritant poison.

Symptoms.—Violent burning pain in the stomach and bowels, with tenderness on pressure, retching and vomiting; dryness and tightness in the throat, thirst, hoarseness and difficulty of speech, diarrhea, tenesmus, and sometimes excoriation of the anus, urinary

organs occasionally affected with burning pains and suppression, convulsions, cramps, clammy sweats, lividity of the extremities, collapsed countenance red and sparkling eyes, delirium, death.

Treatment.—The Hydrated peroxide of Iron is the only reliable antidote for arsenic; but as that article is seldom at hand in domestic practice, emetics of white vitriol (*sulphate of zinc*,) or of ground mustard seed, should be promptly administered; and these should be preceded and followed by large draughts of sweet milk, decoctions of starch, or of flax-seed, gruel, &c.

BARYTA—Barytes. The Carbonate, and the Chloride of Baryta have, sometimes, caused death.

Symptoms.—General irritation of the alimentary canal, with an affection of the brain and nervous system, such as dizziness (*vertigo*) convulsions, paralysis, &c.

Treatment.—Epsom salts (*sulphate of magnesia*) and Glaubers salts (*sulphate of soda*) are the proper antidotes. Emetics may be employed advantageously.

BELLADONNA—Nightshade. The *Atropa belladonna* or Deadly Nightshade is a powerful narcotic poison. For symptoms and treatment, see Aconite.

BISMUTH—Subnitrate of Bismuth. Tris-nitrate of Bismuth. Pearl Powder. Symptoms and treatment similar to Arsenic.

BLOODROOT—Sanguinaria. The *Sanguinaria Canadensis* or Bloodroot, is an irritant and narcotic. In over-dose it is a poison. For symptoms and treatment, see Aconite.

BLUE FLAG—Iris. The *Iris versicolor* or Blue Flag, is an irritant poison.

Symptoms.—Violent vomiting and purging; severe pains in the stomach and bowels; great dryness of the mouth and throat; pulse, at first, full and quick, afterward, slow and feeble.

Treatment.—The vomiting should be encouraged by the free use of warm water, until all the poison is expelled; then a strong infusion of coffee should be given freely. Camphor, ammonia and other diffusible stimulants will be useful, as will the external use of mustard, &c., to the abdomen.

BLUE VITRIOL—Sulphate of Copper. See Copper.

BRANDY.—See Alcohol.

BROMINE—Bromide of Potassa, Bromide Soda, Bromide of Ammonia, &c.

Symptoms.—Irritation and inflammation of the mouth, throat and stomach; stupor, convulsions and death.

Treatment.—Give the white of eggs, starch or wheat flour, mixed in water.

CALOMEL.—See Mercury.

CAMPHOR.—In large doses, camphor is a poison. Symptoms and treatment, substantially the same as Aconite.

CANTHARIDES—Spanish Fly. Potato Fly. Blistering Fly.

Symptoms.—A burning sensation in the

throat; violent pain in the stomach and bowels; nausea and vomiting; sometimes purging; great heat and irritation of the urinary organs; a distressing retention of urine, called *strangury*; convulsions, delirium and death.

Treatment.—Excite vomiting by the free use of warm olive oil, warm sugar and water, warm milk and water, warm flaxseed tea, &c. Enemas (injections) of warm broth, flaxseed tea or milk and water, should be administered, and camphor, dissolved in oil, may be rubbed over the lower abdomen and the thighs.

CARBONIC ACID.—This deadly poison exists in the form of gas, and is often inhaled by persons burning charcoal in a close room; by sleeping in unventilated apartments; by sitting in crowded rooms, without proper ventilation; and by descending into wells, mines, &c., without suitable precaution.

Symptoms.—Drowsiness, difficulty of breathing, loss of sensibility, &c. The countenance is of a livid or deep leaden color.

Treatment.—Remove the person from the situation or apartment in which the poison has been inhaled, or open the doors, windows, &c., for the admission of pure air, and apply cold water to the head and neck.

CHLORINE—Bleaching Gas. This gas, when inhaled, produces violent irritation of the organs of respiration, cough with bloody expectoration, inflammation of the lungs, and, oftentimes, permanent pulmonary disease.

Treatment.—Let the patient inhale ammonia, (hartshorn) cautiously, and administer white of eggs, milk or starch. Magnesia mixed in water, may also be given.

CHROME—Chromate of Potash. Chromate of Iron, &c. For symptoms, see Arsenic.

Treatment.—Give a solution of saleratus, (*bicarbonate of potash*) or of bicarbonate of soda, and then administer emetics.

CICUTA—Water Hemlock. See Conium.

CITRIC ACID—Acid of Lemons. For symptoms and treatment see Acetic Acid.

COCCULUS INDICUS.—This is an article used in the manufacture of fraudulent liquors. It is brought from the East Indies. For symptoms and treatment see Aconite.

COCLICUM—Meadow Saffron. The bulb of the *Colchicum autumnale* or Meadow Saffron is used in medicine; but in an overdose it is poisonous. Symptoms and treatment same as Aconite.

COLOCYNTH—Bitter Cucumber. Wild Cucumber. Symptoms and treatment like Blue Flag. [TO BE CONTINUED]

PUTTING AWAY CABBAGE FOR WINTER.—Though we have seen recommended various modes of preserving cabbage through the winter, and have tried several of them, we continue to pursue the method that we have generally adopted for some twenty years. It is simply to dig slight trenches side by side, on some rising or dry spot whence the water

will readily drain off, in which stand the cabbage just as it grows, sinking it up to the head. The rows can be as closely together as the size of the heads will admit of. Cover over with corn-fodder, straw, or bean-haulm. Then set four posts so as to form a pitch, placing the head against a wall or board-fence. Form a roof by bean poles, when boards are not at hand, cover this with cornstalks or straw. If ordinarily well done the cabbage will keep as long as is desired, having usually kept ours until April and May.—*Germantown Tel.*

STRAWBERRIES.

We have not found it profitable to cultivate strawberries on *light lands*. The expense is too great and the product too small. We think strawberry culture reaches its highest profit only where *large crops* can be readily obtained, and these come only on heavy loam or clay land, well drained and heavily manured. *Sandy soils* will ripen up many small, very early berries, but the main crop is not large, and does not hold out well. Our method for the treatment of all light lands would be to grow *nothing* the first or second years. Simply seed the ground down to clover, let it grow as thick as possible until the summer of the second year, then plough it all under. If we had a muck bed close at hand, we would haul upon the field 200 loads per acre, and let it decay during the winter. The next spring the soil, with light ploughing, would be in fine condition, full of natural vegetable, and able to bear heavy crops. *Vegetable manure* is indispensable in the cultivation of the strawberry, and, as sandy soils are always deficient in it, we can easily see why it is impossible to make such light land highly profitable.

We have always contended that the most important part of the fruit business lies in *proper marketing*. However well the grower may cultivate his fruit, unless he is equally careful in sending it to market, he will surely fail in all his plans.

The profits of strawberry culture have been greatly exaggerated. Estimates of \$500 to \$1,000 per acre are rarely realized. Steady prices of thirty to fifty cents per quart do not come to general cultivators. Our experience in strawberry culture for the New York market, justifies us in saying, that no grower should undertake strawberry culture without a capital of \$250 per acre, exclusive of land. Of this sum he will need \$100 for berry baskets, and the balance must be equally divided between manure, plants, and labor of cultivation. After his bed comes into bearing, he must calculate seven cents per quart for marketing. In some localities it will be eight cents, in others but five cents, of which two cents is for picking, two cents for freight, and three cents for commissioners, labor, assorting and lost baskets. The average production in

New Jersey is but 1,200 quarts per acre; in Delaware, is but 1,500 to 2,000. The past two unfortunate seasons, both East and West, are sufficient to show how easily the *small fruit business* may be *oerdone*. We know there is always a great demand in the large cities for fruit, and that it will increase yearly, but commission men admit every season develops some new features that did not exist the year before, and many a fruit that was profitable last year is a dreg this; and others sell splendidly now which lagged the year before. Every grower must expect such peculiarities, and occasional losses are inevitable. *New York Horticulturist.*

MATERIALS FOR FLOORS OF HORSE STABLES.—The floors of city stables are of various kinds of material. The stable proper, its stalls, loose boxes, &c., are usually covered with wood laid in various ways. This material is perhaps less objectionable for such purposes than any other in use, since floors laid with wood last longer and need less repairing than do those laid with stone; however, some persons object to wood on account of its becoming saturated with urine and other animal fluids in a short time. Concrete is another substance now used in some rare instances for floors of stables, but from what we have seen of it we cannot truthfully recommend it for such a purpose, as it is very apt during the hot season to become full of holes and very uneven on its surface; its chief composition being, we believe, gas tar mixed with sand or gravel. Cobble and Belgian pavements are also in use for stable-floors, but more frequently for the floor of the carriage-house or on that part of it upon which carriages stand while being washed.—*McClure's Stable Guide.*

AN ILLINOIS PIG SHELTER.—A correspondent of the *Western Rural*, after having tried different ways of wintering hogs for the last twenty years, finds nothing equal to the following plan. I take two forked posts and set them in the ground, leaving them about four feet above the surface; next, I put on a ridge pole, and then get some pieces of plank, or scantling, or slabs, six or seven feet long, and set them slanting from the ground on each side and let the ends meet on the ridge pole; cover them with straw or anything that will not let the dirt fall through, and then put a thick covering over this, of earth. I dig a trench around this shelter, to keep out water. The shelter should face the south or east, and be ventilated about the middle. For this purpose I use a small piece of stove pipe. In the Fall, I gather up forest leaves and fill it up. The hogs work them up among the dry earth and form a dust. This is all they want. In the coldest weather they will come out dry and comfortable.

AGRICULTURAL ITEMS.

—It is stated that "Lady Milton" produced 1595 quarts of milk, and 249 pounds of butter, and "Cream Pot" produced 1533 quarts, and 239½ pounds of butter in a year.

—A savant in France has been trying how long he can keep eggs, and he concludes that rather thick linseed oil smeared over the shell as a varnish is better than lime or salt, or hot water.

—It is stated that of all the holiday beef exhibited last year at Chicago, there was not a single animal with less than three-quarters Short-horn blood in its veins.

—The tobacco crop of Lancaster county, Pa., is the finest in quality and largest in growth ever raised there, and will be worth over one million dollars.

—Many persons have wondered why horse chestnut, horse-radish, &c., are so called. A Scotch work says that the original word was "harsh"—harsh-chestnut, harsh-radish, and that the French and Swedes translated it "horse."

—The following indicates the ruling prices for choice butter in St. Albans during the season: In May, it opened at thirty-two cents and closed at twenty-nine; June, twenty-eight to thirty; July, thirty-to thirty-two; August, thirty-two to forty; September, forty to forty-one.

—The silk culture in California is rapidly becoming an important interest, and bids fair in a very few years to rival even the gold production. A large number of silk establishments have recently been organized, the largest of which is known as the California Silk Culture Company.

—Sheboygan county, Wis., has 21 cheese-factories, using the milk of nearly 1,000 cows. The average amount of cheese produced per year is about 400 pounds, which, at 13 cents, about the average price of the season, would be \$52 per cow, or \$47,372 in the aggregate.

—The following gentlemen were recently elected by the legislature of Vermont, Trustees of the University and State Agricultural College:—Hon. Frederick Billings, of Woodstock; Hon. Horace Fairbanks, of St. Johnsbury; Hon. Paul Dillingham, of Waterbury, and Henry Clark, Esq., of Rutland.

—Into the city of New York there flow five great streams of milk each day. One over the Harlem road, another over the Erie, another over the New Haven, another by the Hudson, and yet another by the Long Island, amounting to \$25,000 worth daily, besides that which comes in by numerous small rivulets.

—The *Western Farmer* says that Ira S. Hazeltine, of Richland Center, Wis., has kept as many as 2000 Spanish Merino sheep, and 500 or more Long Wool sheep—Cotswolds, Leicesters and Lincolns. He has kept 300 of the latter in one flock through the winter and had them do well. He

writes the *Rural New Yorker* that he is satisfied that the Spanish Merinos will do much better in large flocks than will the Long Wools, and he prefers them for subduing rough pastures, and rough usage in large flocks, but likes the Long Wools best for raising lambs, and much the best for mutton.

—The *Ohio Farmer* says that the experiment with Ayrshire cattle was tried in the north part of that State twenty years ago and failed. The only popular blood stock for our dairies is grade Short-horns, and the most profitable of all are selected natives purchased in the spring and turned over to the butcher in the fall.

—The apple crop in the interior of New York is enormous. The estimated yield in Genesee county alone is 30,000 barrels. Prices range from \$1.30 to \$1.50 per barrel. The potato crop is also immense, and parties are buying heavily for shipment, principally to the West, at prices varying from fifty to sixty cents a bushel.

—In growing spring sown wheat, as a general rule, very early sown is better than late; and in order to sow early, the better way is to plough the corn stubble, or other land intended for spring wheat, in the autumn, and in the spring only use the cultivator or harrow in preparing the land for sowing. Such a course will generally greatly facilitate the sowing, over the usual practice of spring ploughing for a grain crop.

—An Indiana correspondent of the *Rural New Yorker* writes: "A friend of mine, a lady of undoubted veracity, recently informed me that several years since she cracked a peach pit which contained two kernels: desirous of noting the result she planted the kernels, which in due time germinated, grew and bore, the one a large white, and the other a large yellow peach; each distinct from the other in habit of growth, and appearance and flavor of fruit."

—An Illinois correspondent of the *Country Gentleman* says that the present price of corn in the central part of the State is from twenty-five to thirty-five cents per bushel, according to freighting facilities; and that it is usual in that section to allow seventy-five pounds of corn in the car for a bushel, till the first of January, when the rate is seventy pounds. Corn is unusually dry this season and seventy-two to seventy pounds are now often accepted as a bushel.

—The *Home Journal* says that Kentucky shows an increase in the past ten years of between two and three hundred thousand souls. The population will reach about 1,360,000; the farms will number about 110,000, and the productive establishments about 5000. This is the largest actual increase Kentucky has ever made in any ten years since her first settlement. Some of the wealthiest counties have been growing poor and some of the poor counties have advanced in wealth.

For the New England Farmer.

SHALL WE GO SOUTH?

I met with a gentleman at one of our railroad stations a few days since who informed me that he was an agent for an association whose head quarters were at Memphis, Tennessee. Their object in sending him this way was to influence emigration and capital south, especially to their State.

He unfolded to me his purposes and plans and the grounds of his hope for success. To his mind there was not the shadow of a doubt as to the question of its being more advantageous for emigrants to settle south and for capital to seek investments there than any where else in our country.

These points are being persistently pushed at the present time with great vigor, not only by organized bodies of men who send out their circulars and agents, but by individuals who have an axe to grind in some way if they succeed. I am not prepared to say that they are wholly wrong and selfish in this matter; but I am confident that there are so many drawbacks to be considered and obstacles to be overcome in a location there, that, what at first glance appears to be every way desirable, will, on more familiar acquaintance with all that pertains to the question, assume a very different aspect, and doubts will arise and assume such large proportions as to deter many from yielding to their first impressions. Very many have, no doubt, bettered their circumstances by going south, but more I should judge had failed to be satisfied by the change.

On going through portions of Kentucky, Tennessee, Georgia, Alabama and Mississippi, last summer, I was convinced of the fact that almost every northern man who located out of the cities, found it not only desirable but *indispensable* that northern men should go in communities of their own neighbors and fellow townsmen, or others well known to them.

The fact is, however much we may wish to keep it in the background, that the southern people are not what we wish they were in many respects. Their tastes and sympathies are not in unison with ours; and, of course, so long as this is so, there cannot be fusion of feeling and harmony of action. I learned from ladies from the north, whom I saw in Alabama, that they were treated with much courtesy by the gentlemen, but very *patronizingly* by the ladies. This I think will be found true there almost universally.

I found some northern men doing well, very well, so far as money making is concerned, but more who were not. Crops are more uncertain than with us in New England, and when two years of failure come together great distress often ensues.

If a man goes south with a view either to prospect for lands or for using money for other purposes, he will be surprised at the

amount of consideration bestowed upon him as soon as his object is disclosed. Should he be somewhat vain he will find food enough to satisfy his ambition in that particular. Any amount of calls and invitations will flow in upon him. He will be surprised to find himself so big a man. As a farmer I would sooner go the extreme northwest part of our country and settle on the proposed line of the Northern Pacific railroad (say in the valley of the Saskatchewan, where wheat is said to yield fifty bushels to the acre and weigh sixty-four pounds to the bushel) than settle any where in our southern or southwestern states for a home for myself and family.

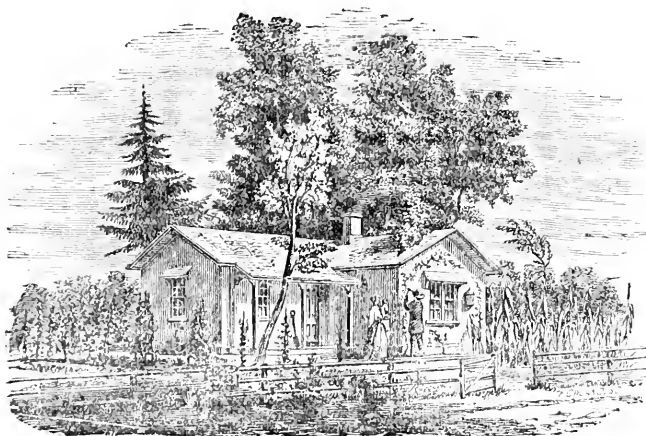
It will surprise most people to be told that the winter temperature in this northern region is several degrees warmer than with us, and that no more snow falls. It is certainly a very *healthy* country, and free from fever and ague and other malarious troubles so prevalent at the south, and generally in all new settled countries.

I am aware that it is claimed for the south that their mines of iron and coal are in great abundance and of excellent quality. There is no doubt of this being true. But is it not equally true that we have as good if *not better* mines at our own doors? Within a few days I have been looking over some tables and estimates of the cost of making a ton of pig iron in Missouri and in Rhode Island, and find that Rhode Island can produce it for less cost by about twenty per cent. and of a quality pronounced equal if not superior to Missouri iron. These tables are given by one of the prominent business men of Providence, and are not mere fancy figures to gull the unwary. If these statements are correct, what advantage are we to gain by going south to invest in such business? Is it not manifestly for the interest of capital to seek out enterprises of this kind at our own doors, where we can look after it with our own eyes and handle it with our own hands? K. O.

Massachusetts, Nov., 1870.

WESTMINSTER, VT., FARMERS' CLUB.—We thank the Secretary and Treasurer of this veteran Club for the information that the association enters upon a new campaign with the following officers. From what we have published of its discussions and from what we have seen in the local paper, the *Bellows Falls Times*, we conclude that it is one of the ablest and best conducted, as well as oldest Farmers' Clubs in New England, and cannot doubt that it is doing much good among the farmers of that town.

President.—W. R. Kimball.
Vice Presidents.—S. M. Nutting, Geo. W. Metcalf, B. F. Phelps, H. P. Farr O. L. Fisher.
Secretary and Treasurer.—M. W. Davis.
Assistant Secretary.—J. B. Morse.
Directors.—D. C. Wright, H. Floyd, Orrin H. Black, N. O. Pierce, R. W. Ranney, Lemuel Spaulding.



A SMALL COTTAGE.

The above cut of a small dwelling house is copied from "Village and Farm Cottages," the author of which estimated that it could be built for six hundred and fifty dollars at the time his book was published, some fourteen years ago.

It is divided into three rooms and a front entry. The front door, at the right of the spade seen in the cut, opens into this entry, and from it there is access to each of the three rooms. The living room, with the large front window, is 14 by 15 feet; immediately back of this is the kitchen 10 by 13 feet, with a fair sized pantry back of the entry; and in the left-hand or ell part is the bed-room 10 by 14 feet, with a closet.

The exterior finish which is plain, may be ornamented by a grape vine or prairie rose, which will look better and cost less than the gingerbread finery of the carpenter. But what a small house for a family! True it is not as large as some; but it is not sufficient for a small family that has not the means to build larger? And would it not be better to own such a house clear than to have a larger one with a big mortgage, or to pay rent quarterly?

But if it is not good enough for you, how would it answer for your hired man? Many farmers are considering the question of employing married men and furnishing a dwelling for them, instead of boarding them in their

families. We hope it will furnish valuable hints to somebody who wants a cheap house.

"TALKING FARMERS."—In the report of the proceedings of the late Farmers' Meeting at Concord, N. H., published in the *Mirror and Farmer*, we find the following:—

Mr. George, of Barnstead, offered this resolution:

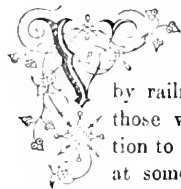
WHEREAS It being a fact that the New Hampshire State Agricultural Society is and for the past few years has been conducted in a large degree by professional men and politicians, rather than by the farmers whose contributions mainly contribute to the success of the exhibitions, it is, therefore,

Resolved, By the farmers of New Hampshire to-night assembled, that the management of the State Society be transferred into the hands of the agriculturists of our State, that the lucrative offices of said Society be given to farmers in full sympathy with our people, that the abuses long existing in the present management of the Society be corrected, and that, failing in this, we will join our efforts with those of the farmers of our State in forming a new Society which shall be at least partially managed by men in direct sympathy with our agricultural people.

After remarks by the chairman and others, on motion of J. F. Lawrence, member of the Board from Rockingham County, the resolution was laid on the table.

A FINE WHEAT CROP.—Mr. A. M. Latham, of Ashley Barony, S. C., sent to the *Rural Carolinian*, a statement of a wheat crop on "seven acres of old field." The land was ploughed nine inches deep and a luxuriant crop of weeds turned under. Sowed one bushel of seed per acre. When full grown, the wheat stood about five feet high, he states, and the yield was 367 bushels of as fine wheat as he ever saw, or about fifty-two and a half bushels per acre! This will probably stir up some of the fossil farmers in the South.

INFLUENCE OF RAILROADS UPON AGRICULTURE.



VARIOUS departments of agriculture are probably more directly influenced by railroads than is believed by those who have not given attention to the subject. Let us look at some of the effects that have been and are being produced on agricultural interests by railroads.

They tend to equalize the value of land. Land is valuable not merely for its capacity to produce food for those who occupy it. A large portion of the population is engaged in other avocations than farming, and purchases its daily food in the open market, which is supplied by the cultivators of the soil, from the surplus which they produce above what is needed for their own consumption. Hence the value of land depends largely upon the facilities for transporting to market its surplus produce. It now costs no more to transport produce from lands lying within easy reach of railroads, two or three hundred miles, than it does to transport it fifteen or twenty miles by wagons. Many articles are now raised hundreds of miles from the city market, which a few years ago would not pay for transportation. Potatoes, green corn, apples and various vegetables are brought from New Hampshire and Vermont to Boston, and compete profitably with the same articles raised within a few miles of the city.

The same is true of the smaller fruits. Animals of almost every kind are slaughtered hundreds of miles away from the cities, and reach the market by the cars in good condition. Milk is transported daily from fifty to one hundred miles to Boston and New York. Tomatoes, peppers, cucumbers and various articles for the pickle manufacturers and canners, are brought in their season from the interior. Strawberries, raspberries, blackberries, currants and grapes are transported from fifty to five hundred miles in good condition.

The market gardeners in the neighborhood of New York, have cut up their lands into streets and house lots, and gradually crept up the North River from fifty to one hundred miles, and their "truck" in immense quantities is daily conveyed in boats and cars to the city. Large sections of southern Illi-

nois are devoted to the cultivation of small fruits and vegetables for Chicago market, two hundred miles away. Land in southern Michigan and southern Illinois are worth from one to two hundred dollars per acre for agricultural uses. New railroads are penetrating the boundless solitudes of the West, affording the means of transporting to market their produce, and thus increasing their value many fold.

Cities are springing up,—yes, that is the word, *springing up*,—almost, like Jonah's gourd, in a night, creating a demand for the produce of the soil around them, and thus giving value to that which before had none.

By means of steam, the early vegetables of the South are brought to the markets of the North, some weeks before they are matured in our colder clime, thus prolonging our vegetable season five or six weeks; and the potatoes, apples and onions of the North find a market in the Southern cities, in the autumn. Both are accommodated by the interchange. The facilities for moving live stock are increased almost without limit. The herds from Texas are embarked at Abilene for Chicago, 460 miles distant, and from Chicago to New York and Boston, a thousand more, and thus the dense populations of the East are supplied with beef, which could not otherwise reach them, and would be of little value, where it is raised. So the swine and sheep from the West are transported by the thousand, to the Eastern markets, on the cars, or are slaughtered, and transported in the carcass. Wool and dairy products would not pay, were it not for the railroad.

Another benefit to agriculture is the dissemination by rail of good stock to all parts of the country. Every valuable importation of cattle, horses, sheep, or swine, soon makes its mark upon all the stock in the country. When it took four or five weeks to drive an animal from New York to Cincinnati, blood diffused slowly, but now that Short-horns are transported from Canada to Kentucky in three days, the work goes on rapidly. Agricultural machines manufactured in the State of New York, are exhibited at the fairs of St. Louis and Chicago, and every improvement in ploughs and harrows is soon known throughout the country. Guano and superphosphate are transported hundreds of miles, and at last, pears and grapes are brought from the

Pacific to the Atlantic. Lumber, too, is transported by rail hundreds of miles for building and manufacturing purposes, and lands that a few years ago were of no value, are now in the market.

Within the present century, a family from Worcester County, consisting of a father, mother, and two sons, built them two wagons, and transported themselves and their worldly gear to West Tennessee, and were seventy days on the way. The journey might now be accomplished in five days, at less than it cost to build the wagons. These rapid movements of produce, stock, and lumber, not only increase the value of land, but increase emigration and bring the land into demand.

For the New England Farmer.

WINDOW GARDENING.

We hope that all the readers of the ever attractive FARMER have made arrangements for a *window garden*, be it ever so small. Three or four pots of flowers that will bloom several months, during the dark, cold winter, will afford an incredible amount of pleasure to their owner. To be sure they require daily care; a neglect of a few days will greatly injure them. We have had practical illustrations of this fact the past week, when an unavoidable absence of a week or more, during which our household pets were intrusted to the hands of hirelings, has resulted in the loss of several of our cherished tender darlings.

During December plants require but little stimulant, but must gather strength for the remainder of the season. They must have their season of rest as well as animals, and if they have bloomed in the summer months, they cannot be expected to bud and blossom at the commencement of the winter. We have given many directions concerning the treatment of "window gardens;" but "line upon line, and precept upon precept" are required, unless one possesses an inborn love for their culture, and makes it a study. Any one can make a plant grow rapidly by watering it with a weak decoction of guano water, (one tablespoonful to one gallon of warm water,) applied once or twice a week; but it is another thing to grow a plant in perfect shape and condition.

More than half of the "window gardens" now scattered throughout New England will show scraggy, scrawny plants, which an experienced florist would discard as worthless; or else would prune and trim with careful hand, until we should consider them ruined, dwarfed almost leafless plants—not quite so, however, for their leaves are its lungs,—and they must not be entirely cut off. If they fall off it is another thing; for the roots set to work directly to put forth new ones; as we see in the

case of roses and fuchsias, &c., which have been kept down cellar for a few months, and when given light, warmth and moisture, bud forth anew in fresh vigor and beauty, greatly enhanced by the period of rest they have enjoyed.

So take your ill-shaped plants, dear friends, and give them a six or eight week's sleep in a dry, frost proof cellar. Then prune with an eye to graceful shape; water,—not too plentifully—with warm water, occasionally mixed with guano or hen manure, and our word for it, by March you will call in your neighbors to behold their beauty and glory.

The variegated leaved plants require a season of rest, and will give you finer foliage another season if allowed to enjoy it.

Scarlet Zonale Geraniums and all their varieties of cherry, pink, salmon and white, are the most desirable plants for house culture, because they are never infested by insects. They require but little care and will bloom ten months out of twelve. Plants of a year's growth do better in-doors than those of greater age. A well shaped geranium in full bloom is a lovely sight. At this season the plants in pots should be frequently turned around. The stems naturally incline towards the sun, which does not usually favor us with much of his light, and by stretching out their leafy arms to receive its strengthening beams, they become distorted and spoiled. Twice a week at least, every pot should be moved and the saucers brushed out. It is very needful to have "house cleaning" in our "window gardens" once a week or fortnight,—the former is preferable. The pots should be washed in warm soap suds, and scrubbed with a brush to cleanse them thoroughly from the green mould which closes up their pores. One sees pots in a greenhouse covered with this same mould, and yet the plants are in full flower, but the greenhouse is heated by steam and the plants are daily aired, while in a parlor the air is close and dry and the roots require all they can breathe in, when it is fresh. Unclean pots are one cause of failure in the culture of house plants. Fresh air is another. We have written so often upon this theme that it would seem as if all our friends must be aware of its necessity. Throw open the windows every noon while the air is at its highest temperature; do not let ice-cold air fall directly upon the tender plants; but give it free circulation throughout the room; keeping a brisk fire in stove, furnace, or *far* better, in the glowing fire place of wood, not coal.

If plants are kept in the kitchen, the frequent opening of the outside door, will freshen them, and the moisture arising from the cooking on the stove will be very conducive to their health. We have seen more thrifty and vigorous plants in a farmer's wife's kitchen than in a gorgeous parlor in Boston. Fresh air and moisture produced the results. If the kitchen grows cool at night, place the pots in

a warmer dining or sitting room, and when the mercury sinks far below the all important cypher, protect them with newspapers, ever at hand in a wise farmer's house; for *he knows* that they contain the rudiments of all learning, as well as the weekly markets. We know a farmer, stricken in years, past the period when Holy Writ declares that the grasshopper shall be a burden, who nightly, when the cold settles heavily down upon his one and a half story cottage, carries twenty pots of beautiful house plants into the cellar. "You see, my old woman thinks a powerful deal of these plants; our boys and girls are all gone; and flowers take their places; so I carry them in for her." Could a fashionable, modern husband show his dainty wife more delicate attention?

Window boxes are much in vogue now, and are easily constructed by an ingenious boy, and can be prettily ornamented with osiers, or moss, or cones, or coffee berries and rice seeds. They are desirable on account of the ease in watering them; for if a newspaper is used to protect the glass from drops of water, the whole surface of the plant can be sprinkled, and more moisture given than by merely wetting the surface of the pots. But they are objectionable on account of not being able to turn the plants, thus causing them to grow one sided. They are beautiful for the culture of bulbs and vines. Ivies, Madeira vines, Tradescantia and smilax will thrive perfectly in them, and the interstices can be filled in with crocuses, hyacinths, Duc Van Thol tulips and cyclamens.

If these are planted with a goodly admixture of sand, and then thickly covered with moss, to shroud the bulb from the light, and allow its roots to penetrate deeply into the earth before the tender green sheath shoots forth with their wealth of leaves and flowers, the blossoms will be vigorous and brilliant.

We can give minute directions for the construction of window boxes should our readers desire them. They will give an air of grace and elegance to any surroundings.

Flowers seen in the windows of the commonest cottage beautify and adorn it. The time required for their culture is not wasted; pure and holy lessons are learned from their mate lips; lessons which nature is ever ready to teach to those who will learn of her, and who will bend to listen to her revealings. We trust that many windows will be adorned with gardens this season, and if their owners desire any more information concerning their culture we shall be ever ready to afford it, and we hope that while

"Fiercely the winter's wind,
Biting and shrill,
Sweeps o'er the valley, fields,
Moorland and hills,"

they will adorn their fire sides with all that is bright and cheerful. S. O. J.

For the New England Farmer.

TOP DRESSING.—PLOUGHING MANURE UNDER.

When we take into consideration the fact that this is the enlightened nineteenth century which has developed many marked improvements, and revealed many wonderful discoveries in science and the mechanic arts, there is cause for humiliation that so little progress has been made in agriculture, the foundation and main-spring of everything that concerns man as a living being. And yet in the midst of this humiliation there is cause for rejoicing that new light is dawning; that the clouds of error and hereditary thought are receding, slowly it may be, before the march of science and practical demonstration.

But a few years ago, the opinion was well nigh universal that manure must be speedily covered to a depth of six or eight inches, or it would take wings and fly away. Great caution was used by the careful farmer, lest it lie a few minutes too long, and the team was kept in close proximity to the manure fork. A change of opinion has occurred to some extent, and many now believe that top dressing is the best method of improving the soil, as well as securing a present crop; yet the old method is still adhered to by many with much obstinacy.

Here lies, it seems to me, one of the most important problems in agriculture—one which the farmer should strive with the greatest earnestness to solve. It should have been solved beyond dispute long ago, for in its solution is involved thousands of dollars annually to the farmer of New England.

When manure leaves the soil, does it go up or down? If it goes up, then the deeper it is covered the better, if it is not entirely beyond the reach of the crop. If it goes down, then it should be spread upon the surface, and allowed to mingle with and enrich the soil, and remain as long as possible where needed, while passing away in its downward course.

The advocates of the upward tendency will not contend that manure is drawn up bodily, by the cart loan, but that it must first be dissolved and then taken up in a liquid form. Now let us take a familiar example or two, that have a close analogy to this subject. Suppose we dissolve one hundred pounds of sugar in water and place it in the sun. Evaporation begins and continues until the water is gone; but the sugar remains. Substitute salt or potash and the result will be the same; the water will pass off in vapor, and the dissolved substance remain. In neither case, if the experiment be conducted with prudence, will there be more than a slight loss. A small proportion of such substances as reveal themselves to us through the olfactory nerves, mingle with the atmosphere in the form of vapor or gas and is lost; but the proportion of manurial substances that come within the province of the general farmer and is lost in

this way is inconsiderable. Manure contains more or less ammonia in a fixed state that is liberated and lost by the application of lime or ashes. Hence the importance of keeping apart stable or barnyard manure and all alkalies, and applying them separately.

The farm which the writer occupies is a small one; but large enough to test a principle. It is but a few years since I turned my attention to this subject, and abandoned the old method of ploughing manure under, as it seemed to me, all at once, to involve a great loss of manure. I reasoned thus: according to general principles manure goes down; therefore if I cover it six or eight inches, it is gone that distance the first jump, and beyond the reach of many of the finer plant roots. Especially if it lie under a tough furrow of greensward, it is nearly useless for several weeks, until the stronger roots strike downward through the turf in search of food. It should therefore be spread upon the surface, and be permitted to mingle with the soil when it is needed, become dissolved by rains and thus converted into plant food to which the finer and feebler roots may find easy access, and remain as long as possible where its benefits will be felt.

There are cases where manure should be covered with the plough, but these belong to the catalogue of "necessary evils." Upon side hills where there is danger of washing into the rich valleys below, and when the manure is coarse and bulky, it may be covered. The process of rotting is hastened under the surface. But it would be better to convert such crude manure into a finer substance, fit for the surface, by mixing it with muck and piling up for a year under cover. C.

Wilmington, Vt., Dec. 1870.

WINTER PROTECTION OF BEES.

Farmers who keep only a few hives of bees, merely to obtain honey for home use, are not expected to give such particular attention to the business as those who are engaged in it largely, yet a certain amount of care is necessary to warrant a good return. Where the bees are wintered out of doors, protection from severe cold winds must be given, and may be afforded by setting posts on the north and west sides, boarding the same up closely and covering overhead.

None but strong colonies should be selected for wintering, and the weaker ones "taken up," or two united in one, which is better. To unite them, there are two simple processes: Smoke both thoroughly by burning cotton rags or rotten wood, and shake all together upon a sheet and put them into the hive of the strongest colony; or, invert the weaker of the two, set the other upon this and drive the first up by use of smoke, blown in at the base. Two swarms thus united, will consume but little more honey than one alone, as more

heat is generated and less food required. Not less than fifteen or twenty pounds of honey should be allowed to winter a colony; where there is less than this, feeding will very probably be necessary, and the hives should be watched closely to see that the supply is not exhausted, and the family starved to death.—*Ohio Farmer*.

EXTRACTS AND REPLIES.

LOW PRICE OF FARMS IN MASSACHUSETTS.

Here in northern Vermont few farms can be bought under \$30 to \$40 per acre, and many are sold at double and sometimes treble these prices. Why are farms offered so much lower in Mr. Chapin's *Advertiser*, that are said to be located on or near the Albany railroad? Are the towns bonded to railroads, or deeply in debt, and thus heavily taxed? Or is the soil so run down and poor that they are worth so little? Can you tell me what is the matter with your Massachusetts farms that they are advertised at such low prices? If you have such a publication as our *Vermont Register* perhaps that would afford me the desired information. I enclose the money for a copy. W. E. A.

Millton, Vt., Nov. 28, 1870.

REMARKS.—At the time your letter was received, one of our subscribers in the town of Worcester, a gentleman of much intelligence, was in the office. We read it to him and asked him to tell us what answer we should make. After a moment's hesitation, he replied, "Well, I hardly know what to say. In my neighborhood several farms have been sold at prices I should have been unwilling to accept had they belonged to me. It is true that there is some poor land in Worcester county, but there is also much good land, and many farms cannot be bought at a low figure. Our boys seem to think they can do better at other kinds of business than farming. I have raised six boys, and only one is a farmer, and he probably remains at home from a conviction of duty to his parents rather than from choice. In Worcester, now a city of some 40,000 inhabitants, a great variety of manufacturing is carried on, and the young people prefer the shop or the store to the farm, and many of the old homesteads in the country towns are running down,—both fields and buildings being neglected."

Such were the suggestions of our Worcester county friend. We cannot add anything of value to them. Some of the towns in Worcester county are "bonded" for smaller or larger amounts, and a large part of them are seriously in debt, and there is much complaint of the late rapid increase of taxation. But we do not know whether those in Worcester county are worse off in these respects than towns in other States.

From our acquaintance with the soil of the Lake Champlain Valley, we are free to say that in few localities in New England can its equal be found. Our experience in the world teaches us that lands, as well as men, generally pass for just about what they are worth. We have little personal acquaint-

ance with the farms in Worcester county, but must conclude that if they are offered below their real value, it is the result of some temporary local cause,—a sort of selling fever or fashion, perhaps, which prevails at times in all localities.

Probably you will not be able to obtain a satisfactory answer to your questions cheaper than by a personal visit to Worcester county.

The Massachusetts Register is a large volume, and the price, we believe, some \$3.50, and probably it would not prove satisfactory to you.

HAIR SNAKES.

What is in the water? About a month ago I made a new water trough or tub for my cattle. Yesterday I noticed something white at the bottom of the tub. On taking it out I found it looked like a horse hair, and was about eight inches long, but it soon began to move like a snake. Will horse hairs become snakes? If so, how soon after falling into the water? O. H.

Wallingford, Vt., Nov. 29, 1870.

REMARKS.—The natural history books spoil the poetry of the popular idea that horse hairs turn to snakes. These curious worms, like all other animated beings, are produced "after their kind." The perfect worm lays its eggs in long chains in water or moist earth. The young hatch in about three weeks, and are at first of a very different form from their parents. They are so small that some 400 make an inch in length. The American Cyclopædia says their posterior portion is cylindrical, rounded, and furnished with short spires at the end; the anterior is wider, the mouth having two circles of retractile tentacles and a club-shaped proboscis. These minute creatures are swallowed alive by crickets, grasshoppers, beetles, &c., in the bodies of which they are developed into long hair like worms. A hair snake eleven inches long has been found in a beetle only one inch long. Hence they are similar to the intestinal worms which exist in all animals. The books give them the name of *Gordius aquaticus*.

Would it not be better if boys and girls would read books which tell the wonderful stories about animal and vegetable life, growth and development, instead of those which deal in fiction?

A TRIBUTE TO THE FARM.

DEAR PARENTS:—It is the night before Thanksgiving. I have been thinking, all day, while so busy with my hands, of those days years ago, when we were all at home, getting ready for Thanksgiving. My memories of those seasons are very pleasant; and I have been thinking if my child could have such memories to bless him, should he live, of his childhood thanksgivings, I should be satisfied.

Then the day itself. No memories of cloud or storm, but sweet memories of the satisfaction and rest within; the final adjusting of everything, and every body bright and clean and satisfactory. Father going for our dear grandma, who was a part of Thanksgiving; the return; her kind words and attention to each one, so thoughtful for others and happy in seeing all happy around her. We were satisfied with each other, and sought no outward pleasures beyond our own comfortable home.

I have felt to-night, dear parents, how much I would like to live over one of those glad days before our full circle was broken, with all those early joys and feelings. Yes, "I *would* be a child again," for one day—one Thanksgiving day! Not that I wish to live my life over again; but such an experience, seems to me, would be like stepping from a stormy voyage, on to an evergreen isle bathed in sunshine and unfading beauty. Not that my voyage in life has been rough,—far from it; but only a very busy one. I do love to stop a moment at these mile stones, and recall my early childhood days in the dear old home, with all the loving and loved ones right there. And I bless my Father in heaven that my life was cast in a quiet country home, and that I was brought up a *farmer's daughter*. X. X.

New Hampshire, Dec., 1870.

REMARKS.—We have been allowed to copy the foregoing extract from a letter written by a daughter of a Vermont farmer, now the wife of a New Hampshire clergyman, to her parents. How many others have seen cause to bless their heavenly Father that they were brought up in a quiet country home,—that they were the sons or daughters of farmers! Do parents prize as they should such an inheritance for their children, when comparing the advantages of city and country life? The desire expressed by this lady that her child should be blessed by the memories to which she alludes, has been experienced by many parents whose children were growing up under different circumstances.

SEVERAL BREEDS OF HOGS.

Will you give the characteristics of the breeds of swine known as Suffolk, Essex, Mackay, Chester County or White Chesters and Plymouth, including their peculiarities of growth, origin and preference for farmers to raise? I would like to know if the Chester County and the White Chester are the same or different breed of hogs. I notice the breed called by some Chester County are coarse, large and rawny, and another called the White Chester are large, but not as coarse. D. A. Brown of this place has two—sow and a boar—purchased of Mr. Baker, Barton, Vt., called full blood White Chester, which are very fine, large, handsome hogs. Mr. Baker purchased his breed direct from Pennsylvania. I notice in reading the premiums on swine, the breeds are seldom given.

READER AND SUBSCRIBER.

Keene, N. H., Dec. 2, 1870.

REMARKS.—The Suffolk and Essex are perhaps the two most popular of all the English breeds.

The Suffolk is white, with short heads, and long cylindrical bodies upon short legs, fine, thin hairs. By many English farmers this breed is regarded as the best in England. The late William Stickney, of Boston, imported and bred these hogs, and in some sections in New England it is still known as the Stickney breed.

The Essex breed is black, and is said to have been the result of a cross on the old-fashioned black hogs of Essex County, England, with an Italian breed known as Neapolitans. Early maturity, and an excellent quality of flesh are among the merits of the Essex. The color is not popular in this country.

The Mackay is an American breed produced by

crossing with various English breeds, by John Mackay, who for many years run a packet-ship between Boston and Liverpool. After retiring from his sea-faring business, he interested himself in breeding swine, and for several years the captain's hogs took all the premiums at cattle shows in his vicinity. In 1838, Mr. Sanford Howard said, "For aptitude to fatten, large size at an early age, they are unrivalled by any swine ever known in our country."

We know nothing about the Plymouth breed.

The Chester County, Chester Whites, White Chesters, &c., originated in Chester County, Pennsylvania. They are a good kind of white hogs, but probably they have not been bred with sufficient care and during a sufficient length of time to be entitled to the name of breed. Hence, as you say, some are coarse, large and rawny. The demand for these hogs, caused by advertising, &c., has been so large that some breeders have filled orders with such as they could buy of neighboring farmers.

Before railroads were introduced, drovers were in the habit of buying a nice kind of white pigs in the county of Columbia, N. Y., for the Brighton market. These pigs became popular, and were known as Columbia County pigs. The name is still applied at that market to thrifty looking white pigs from all sources and of all breeds.

PLASTIC SLATE.

A few years ago a patent roofing was advertised considerably. It consisted of felt covered with ground slate and coal tar. I believe it was called *Mastic Roofing*, and I think the *Masonic Temple*, Boston, was covered with it. I have not seen it advertised lately. Has it proved a failure for roofs, or are they using it to any extent anywhere?

Fairfax, Vt., Nov. 28, 1870.

REMARKS.—We are sorry to say that this roofing seems not to have given sufficient satisfaction to have been extensively used. We say "sorry," because a cheap and durable roofing is greatly needed, and the confident manner in which this material was recommended by Solon Robinson and other members of the New York Farmers' Club, led us to hope that the plastic slate would prove to be a valuable article. We have heard nothing of it for some time, and suppose it is a failure.

SAWDUST WITH MANURE—VALUE OF COAL ASHES.

Will you please to answer the following questions. What is the effect of pine sawdust on manure when used as bedding? Are coal ashes worth anything as an absorbent or as a fertilizer applied to land in any way? ASKER.

Wrentham, Mass., Dec. 3, 1870.

REMARKS.—The first effect of sawdust on manure is to absorb the liquid portion, that otherwise might be lost; then it tends to produce heating, which must be guarded against and properly managed.

Coal ashes is worth something as an absorbent. It is good in privies, &c. As a fertilizer it varies

according to the qualities of the coal burned, kindlings used, &c., but this value is generally considered to be very small.

On each of these subjects we have published several articles during the year past; and the index to the *Monthly FARMER* will refer you to the various pages on which these matters are discussed.

URINARY TROUBLE IN A HORSE.

About a year and a half ago a valuable horse appeared to have some urinary difficulty. It was passed with effort and was quite bloody. These symptoms changed in a short time. The urine so far as I could see resumed its natural color, but was voided frequently and often involuntarily. Any sudden start, such as putting a hand on him unexpectedly, or other nervous excitement, causes a discharge. No one whom I have consulted has been able to account for the trouble.

Claremont, N. H., Dec., 1870. S. A. SABIN.

REMARKS.—It is difficult to determine the character of the disease with which Mr. Sabin's horse is affected from the above description. It may be a case of gravel, and there may be a stone in the bladder; or, the whole difficulty may have been caused by a violent blow upon the loins, or by a severe strain. If practicable the bladder should be sounded, and a chemical and microscopical examination of the urine made by a competent person.

In the meantime, we would advise that the animal be fed on timothy or natural hay, with a fair allowance of oats and corn, withholding clover and other articles which contain lime. Let him have all the soft water he will drink, but give him none that is hard. Curry him well, clothe him comfortably, exercise him moderately, and in everything keep him in obedience to the laws of health.

If, on proper examination, a stone be found in the bladder, have it removed by a surgical operation. If it be a case of gravel only, give sixty to eighty drops of *strong muriatic acid* daily, in the water he drinks; also give freely of flaxseed and other mucilaginous articles. If the case is the result of a mechanical injury—a blow or a strain—mustard poultices, fomentations, &c., will be proper.

For the nervousness, liberal doses of *bromide of potassium* may be useful—say a tablespoonful of a saturated solution, twice or thrice a day. This may be obtained of any druggist.

WORKING BULLS IN HOT AND COLD WEATHER.

In a communication by O. W. True in the last *FARMER*, he questions whether bulls will stand the heat and cold as well as other cattle. In 1839 my father bought two bulls and trained them to work. They proved to be good workers and gentle. At five years old they would do more work about once a month, and have not had any trouble than the heaviest oxen in Danby, where he then resided. Since then he and myself have trained sixteen different bulls, all of which but one were good workers. All were easy to learn except two. During the same time we have trained four steers,

all proving good workers and good to learn. During the same time we have had four stags, which could not or would not learn anything, and remember it. The bulls will endure the heat or cold as well as any cattle, provided they are kept away from cows after you commence working them.

Wallingford, Vt., Nov. 29, 1870. ORRIN HAGER.

For the New England Farmer.

MEDICAL TOPICS.

BY A MEDICAL MAN.

Poisons; their Symptoms and Treatment

CONIUM.—The *Conium maculatum* or poison hemlock, (sometimes called Cicuta,) is an irritant narcotic, producing symptoms, when taken in an over-dose, similar to those produced by Aconite, and requiring the same treatment.

COPPER.—*Sulphate of Copper*, commonly called Blue Vitriol—*Acetate of Copper*, commonly called verdigris.

Symptoms.—Violent headache, vomiting, pain in the bowels, cramps in the lower extremities, diarrhœa, convulsions, palsy.

Treatment.—Same as for arsenic.

CORROSIVE SUBLIMATE.—See Mercury.

CREOSOTE.—This is an irritant poison obtained from the various kinds of tar.

Symptoms.—Pungent taste, burning pain, vomiting, purging, &c.

Treatment.—Give the white of eggs immediately; or if that cannot be obtained give largely of wheat flour mixed in water.

CROTON OIL.—This is obtained from the seeds of a shrub found in India. Symptoms and treatment like blue flag, colocynth, &c.

DIGITALIS.—Foxglove—The *Digitalis purpurea* or Fox-glove is a powerful narcotic. For symptoms and treatment see Aconite.

ERGOT.—Smut of E.g.—This is a narcotic irritant, and poisonous in over-dose. Symptoms and treatment like Aconite &c.

FOWLER'S SOLUTION.—See Arsenic.

FOX-GLOVE.—See Digitalis.

GIN.—See Aicchel.

GLASS.—When glass or enamel of any kind is taken into the stomach, irritation and inflammation of the stomach and bowels, with the usual symptoms of such affections may be expected.

Treatment.—Give the white of eggs, wheat flour mixed in water, or thick gruel; and follow with such other remedies as are adapted to the cure of inflammation.

HELLEBORE.—The *Helleborus niger* or Black Hellebore is a powerful cathartic, and in large doses, an irritant poison. For symptoms and treatment see Blue Flag. Green and white hellebore may be found under the head Veratrum.

HENBANE.—See Hyoscyamus.

HYOSCYAMUS.—*Hyoscyamus niger*, or Black Henbane, is a narcotic poison. Symptoms and treatment same as Aconite, Belladonna, Conium, &c.

IODINE.—**IODIDE OF POTASSIUM.**—**IODIDE OF**

IRON.—**IODIDE OF MERCURY, &c.**—Iodine in all its forms, is an irritant poison.

Symptoms.—Heat and constriction of the throat, offensive eructations of gas from the stomach, nausea and sometimes vomiting, pain in the stomach and bowels with diarrhœa, a quick pulse, great thirst, tremblings, convulsions and death.

Treatment.—Give starch or wheat flour mixed in water, and then induce vomiting by the free use of warm flaxseed tea or other mucilaginous drinks.

IRON.—This highly useful metal in its pure state is not poisonous, but some of its preparations are. Examples: *sulphate of iron* or *copperas* and *chloride* or *muriate of iron*.

Symptoms.—Colic pains, vomiting and purging, violent pain in the throat, a feeling of tightness at the stomach, coldness of the skin, feebleness of the pulse, &c.

Treatment.—Give a strong solution of carbonate or bicarbonate of soda, and follow with mucilaginous drinks.

LAUREL.—See Prussic Acid.

LEAD.—**SUGAR OF LEAD** (*acetate of lead*)—**WHITE LEAD** (*carbonate of lead*)—**RED LEAD** (*red oxide of lead*)—**LITHARGE** (*brown oxide of lead*,) &c.

Symptoms.—Obstinate constipation, violent colic pains, retraction of the abdomen, vomiting, a small hard pulse, laborious breathing, a blue tinge to the gums, tremors and paralysis of the extremities.

Treatment.—If the poisoning be recent, give freely of sweet oil, white of eggs or milk, and follow with an emetic; then administer repeated doses of epsom salts (*sulphate of magnesia*,) In severe colic from lead poisoning, the warm bath, galvanism, anodynes and chlorate of potash, may be employed in addition to the salts, &c.

LIME.—Symptoms and treatment same as Ammonia.

LOBELIA.—**INDIAN TOBACCO.**—The *Lobelia inflata* or Indian tobacco, is an irritant narcotic poison. For symptoms and treatment, see Aconite.

LUNAR CAUSTIC.—See Silver.

MANDRAKE.—**MAY APPLE.**—The *Podophyllum peltatum* or Mandrake root, is a useful cathartic, but an irritant poison when taken in over-dose. Symptoms and treatment same as Blue Flag, Colocynth, &c.

MERCURY.—**CALOMEL**, (mild chloride of mercury,)—**CORROSIVE SUBLIMATE**, (corrosive chloride of mercury)—**RED PRECIPITATE**, (red oxide of mercury)—**VERMILION**, (red sulphuret of mercury,) &c.

Symptoms.—A harsh, metallic, astringent taste, a burning pain in the stomach, vomiting and purging, irritation of the urinary organs, and sometimes suppression of urine, a sense of tightness and of burning in the throat, stupor, convulsions and death.

Treatment.—Albumen in some form should be given as soon as possible. The white of

eggs is best; but if that be not at hand, milk, or wheat flour mixed in water may be used.

MORPHIA or MORPHINE.—See Opium.

MURIATIC ACID or HYDROCHLORIC ACID.

Symptoms.—Burning in the throat and stomach, thirst, a hot and dry skin, a red and glazed tongue, black lips, vomiting of blood mixed with yellow matter, cold sweats, delirium and death.

Treatment.—Administer magnesia or soda, mixed in water, and follow with flaxseed tea, or other mucilaginous drinks.

NITRE—SAL NITRE—SALTPETRE—NITRATE OF POTASH.—See Potash.

NITRIC ACID—AQUAFORTIS.—Symptoms and treatment like Muriatic Acid.

NIGHTSHADE.—See Belladonna.

NUX VOMICA.—This is the common name for the seeds of the *Strychnos nux vomica*, a moderate sized tree found in the East Indies. It is a powerful narcotic and irritant. Symptoms and treatment like Aconite.

OPUM.—This is a powerful narcotic poison extracted from the poppy—(*Papaver somniferum*.)

Symptoms.—Drowsiness, stupor and perfect insensibility or delirium, followed by profound sleep, a pallid countenance, deep snoring or stentorous breathing, cold sweats, a slow, full pulse, a cold and livid skin, a suspension of all the secretions, except that of perspiration, sometimes convulsions, particularly in children.

Treatment.—The stomach must be evacuated as speedily as possible. Use a stomach pump if one is at hand; if not, administer an emetic of white vitriol (*sulphate of zinc*) or of ground mustard seed. Affusions of cold water upon the head, chest and spine, may be employed with advantage; also, *flagellation*, or whipping the extremities with small rods for the purpose of arousing the patient from his stupor. The best liquid that can be given is a strong decoction of coffee.

[TO BE CONCLUDED.]

TIME FOR COWS TO COME IN.

A cow that drops her calf in April is of more profit than one that comes in earlier in the year, with the same care and feed. If your cows drop their calves in February, or the first part of March, you will have to feed largely with grain, roots, &c., the rest of the

feeding season, and you will make an article of butter which must be sold immediately, as you cannot keep spring butter, nor can you make butter as cheaply with the mercury at zero or below, as when 30° to 60° above. By the first of June, whether you have fed extra or not, your cows will fall off in quantity and quality of milk, and you will have a small yield of butter through the best of the season; when, if they had come in six or eight weeks later, they would have gone out to grass heavy and strong, and capable of giving the largest quantity and the best quality of butter.

By the first of October your cows will be nearly or quite dry, when if they had dropped their calves in April, you would have found that October was the most profitable month of the season. And further, you will find this month and the next, the best to feed grain to cows.

All cows in a herd should drop their calves as near the same time as possible. If one should drop her calf after you have commenced to pack and put away butter, do not put her milk with the rest for two weeks or more, as it is impossible to keep butter made from it, and it will damage the rest. This is one very common source of an occasional bad tub of butter.—*J. E. Hollister, in Montpelier, Vt., Watchman.*

POTASH FROM WOOL.—One of the most interesting among recent scientific applications is the method of extracting potash from the yolk of wool fleeces, which from this source for some time past has been obtained in great purity. It is computed that if all the fleeces of all the sheep of France, estimated at 47,000,000, were subjected to the new treatment, France, would derive from this source alone all the potash she requires in the arts, enough to make about 12,000 tons of commercial carbonate of potash, convertible into 17,500 tons of saltpetre, which would charge 1,870,000-000 cartridges. So that the inoffensive sheep, the emblem of peace, can be made to supply the chief muniment of war. The obvious lesson from these facts, to the sheep farmer, is to wash his fleeces at home in such a manner that the wash water so rich in potash, may be distributed upon the land as liquid manure.—*American Artizan.*



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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

FEBRUARY THOUGHTS.



ALTHOUGH the shortest month in the year, FEBRUARY is sometimes the coldest. Last year a storm commenced on the 8th day by scattering snow flakes falling in

the morning. The wind rose as the fall of snow increased, and in the

evening the air was filled with it so thickly that only for a short distance could large objects be seen. Then came the northern blast, roaring through the trees, whirling the dry flakes into the air and seeming delighted in scattering them in every direction, or piling them in masses under the stone walls, or filling the highway so that man nor beast could pass over it. It was "fun" to see it, backed by a warm room, bright lights and an easy chair. The scene without recalled some experiences when "snowed in" in the mountains, and gave the comforts of social life new charms. No position seems so thoroughly to bewilder the senses and make all vague and uncertain about one, as to be overtaken at night in an un-

known region, and amid a trackless waste of snow. If the heavens have obscured their lights, every step the traveller takes must be one of doubt and misgiving; may lead to difficulties that cannot be overcome.

How vividly comes every thought of the poet to one who has sunk exhausted on the mountain side, and planned his hut of green branches in the valley below, if a little rest and reviving powers would enable him to get to them.

"Lone on the midnight steep, and all aghast,
The dark, wayfaring stranger breathless toils,
And, often falling, climbs against the blast."

We can have little good farming without good stock. No stock, no manure; no manure, no crops; no crops, no anything. We are used up. So, the more cold the weather, the more attention the stock will require. The backbone of the winter is broken, so far as days and weeks are concerned. But not so of the weather. Old Boreas will not resign the reins till after the first of March, but blows, and freezes, and showers his snow flakes upon us more freely than ever. We must not anticipate the green grass too soon, but husband the resources of the barn as though we knew that February, March, and even the fickle April, would require as much fodder as January itself.

Keep all the stock so that they shall have soft, loose skins, and lively hair. If they present these appearances, they will be perma-

nent advertisements of their owner's skill and humanity. They will fill large milk-pails, become the envy of every good teamster as workers, or surprise you at the shambles by a weight which you scarcely expected in *an animal that did not look very fat!* The rough tallow was well laid on, another month's feeding would have shown the fat nearer the surface.

But, Mr. Farmer, your duties are not all among the animals who do not think and reason. You have others, perhaps, whose thoughts are to be guided and reasoning powers aided, or corrected. So when the boys have returned from school and assisted in making all comfortable for the night about the barn,—and the girls, with charming zeal and aptitude, have lightened the mother's cares, *you, yes, yourself!* must become a teacher in the higher school. The room is warm; the lights clear; the wind roars through leafless trees without; books are upon the table, and their lessons for the succeeding day are scanned.

Now is the time for the *natural* teacher to go as far as he can over the lessons which the children are striving to master. Nothing will encourage young students so much, and the effort may become as instructive to parent as to child. They become teachers in turn.

It should be remembered, too, that education not only secures the means of being useful to the world, but, rightly used, confers ease of manner, dignity and grace upon its possessor, and what is of still greater importance, *saves the child from a life of idleness and vice.* Returns from the penal institutions of New England show the two leading causes of crime to be the want of a trade, and the want of education.

The *February* evenings, then, are moments precious beyond measure, in this light. If judiciously occupied for a single month, knowledge may be gained and impressions made which may be a source of power and happiness through a long life. The scenes of such evenings may become a "joy for ever,"—a stay and comfort in the trials of life, and a foretaste of heaven itself.

Who will allow such opportunities to pass unimproved? Who so indifferent as not to recognize and value them? Let it not be those standing pre-eminent amidst the most

pleasing operations of a Divine Hand, and witnessing its manifestations in everything he sees or touches in the duties of his daily life. Improving the soil tends to improve the mind. Improving the mind gives us power to improve the soil. When both are accomplished, the labor of the farm will be more agreeable, and its profits larger.

APPROPRIATE WORK FOR FEBRUARY.

TOP-DRESSING.—If snow is not too deep, this month is a good time to top-dress lawns or mowing lands. The weather will be sufficiently cold to prevent fermentation, and if the dressing freezes or is covered with snow, there will be little or no loss by evaporation. The melting snow or rain will wash out the enriching matters, and carry them down among the roots of the grasses, where they will be ready for use by the plants when the earth is warmed by the spring sun. This work can be done without injuring the surface by wheels or feet of the team, and will be out of the way when other duties are urgent. In the spring pass over the manure with Witt's Breaker, and it will become so fine as to be washed down by the first rain.

HAUL OUT MANURE.—Dr. DANA, who had occasion to weigh the droppings of cattle many times, states that one cord of green dung, pure as dropped, weighs *nine thousand two hundred and eighty-nine pounds!* If the farmer, then, wishes to apply six cords to an acre of his corn land, his team must haul thirty-one tons and seven hundred and thirty-four pounds, in order to place it on the field. In many cases it would be necessary to haul this up hill, and quite often over ploughed ground. If several acres were to be planted, and each supplied with a similar amount, the task to remove it would require several days, and would be a Herculean one. Of course, as the manure was fermented and dried, the weight would be less.

The labor of removing this immense weight is not the only objection against leaving it until the ground is bare, and planting time at hand. Other duties are pressing then, which cannot be postponed. If hauled to the field where it is to be used, and thrown into a compact form, it will be ready for overhauling and breaking up as soon as the frost leaves it. This should be done two or three times, and a

slight fermentation allowed to take place, in order to facilitate breaking it up.

Some persons object to hauling out manure in the winter, because it must be unloaded by hand from a sled. This, however, is one of the operations which the manure needs. It is so much done towards making it fine. If the heap is slightly covered with loam, after being overhauled in the spring, little or no loss will occur from evaporation. If the ground remains bare, the teaming can be done on the frozen ground easier than on the soft ground in the spring.

The wood pile, fencing stuff, hog sty, house cellar, farm implements, poultry house and many other things, require attention in this month.

St. Valentine's day will come on the 14th, when, it was anciently supposed, birds began to mate. If the day suggests to any party, any exercises of that nature, it should be remembered that large latitude is allowable on the old Saint's day.

The suggestion of old Tusser, who worked on his farm, and wrote about it, near 300 years ago, is a good one with which to close this homily:—

"Good provender laboring horses would have,
Good hay and good plenty plough oxen do crave,
To haul out thy muck, and to plough up thy ground,
Or else it may hinder thee many a pound."

For the New England Farmer.

THE GARDEN IN FEBRUARY.

Though, in our New England climate, little other work can be done in the garden than to see that no injury results from negligence, there are a few things the prudent, thoughtful gardener will do to anticipate Spring work. But this is the season for planning, study and investigation,—a part of garden work too much neglected. Time that should be devoted to rearing and planning for the future may be spent listlessly or worse. Times and habits change. A few years ago an "English Strawberry" was a novelty in many a New England village and on most farms. Many vegetables and flowers have been introduced during the past ten years, and a knowledge of their names and uses is becoming a necessary part of the education of a farmer's family. Our tables are not well provided with vegetables, and we have consequently fallen into the habit of eating too much meat. It would be more healthy, and less expensive to increase the vegetable portion of our diet. Meat is costly, and there appears to be a constantly increasing advance in cost of some kinds. The best antidote for this state of things is for every

farmer, especially, to grow a greater variety and quantity of vegetables; and to do this the most profitably, advantage should be taken of the experiences of others as recorded in horticultural books, and our farm papers.

COLD FRAMES need good care to prevent the plants from damping off or other injury. Plenty of air must be given on mild days, and protection from sudden changes of temperature at all times; the great end is to keep them in a dormant state, free from injury.

CUTTINGS AND SCIONS.—Cuttings from currants and gooseberries may be made, during a mild spell; also scions for grafting may be cut and preserved for spring use.

GRAPE VINES.—Neglected vines should be pruned during this month, at the latest, before they come into full leaf. A. S. Fuller says he prunes in December.

HORSERADISH.—A thaw may afford an opportunity to dig for family use or for market. It may be kept fresh a long time packed in moist sand, or earth; grated and moistened with water, with a little salt added, and bottled, it makes a very acceptable condiment with boiled sauce. Vinegar destroys its life, if kept in it.

SEEDS.—Overhaul all home grown and see that their vitality is preserved. The vitality of seeds depends greatly upon the care they receive in growing and preserving. Some are sure to vegetate only one year, while others will retain germinative qualities ten or more years. Send your orders to reliable Seedsmen for any deficiency. The general gardener can ill afford to test many novelties. There are enough well established varieties of all kinds of vegetables, &c., from which to select. Let amateurs experiment in new kinds, and if they prove desirable, a few seasons hence will become plenty and cheap.

For the guidance of the inexperienced need, I will here name a few of the different varieties of vegetables, &c., desirable in every good garden.

ASPARAGUS.—A bed of greater or less size, according to size of family, of this very desirable plant should be found in every garden. Comover's Colossal is the most desirable, yet the older varieties should not be rejected. Good culture and high manuring will insure a corresponding good size and crop.

BEANS.—Of these we want Bush, Dwarf, and Pole, or Running. Early Valentine, China, and Dwarf Wax are desirable sorts for snaps or string. Lima, Case Knife, Red and White Cranberry and Giant Wax or London Horticultural, for poles.

BRETS.—Early Bassano, earliest; Long Blood Turnip, late; Swiss Chard, fine for greens only.

CABBAGE.—Jersey Wakefield; Early and Large York; Early Ox Heart; Wilmingsstadt; Early Flat Dutch; these for early and medium are the most desirable. Marblehead Mammoth; Stone Mason; Common Ball;

Flat Dutch; Green Globe Savoy, for late. Red Dutch for pickling.

CARROTS.—Early Horn, for early; for main crop Long Orange.

CALIFLOWER.—Early Erfurt, dwarf compact; Early Paris, fine, but larger than last; Wellington, largest.

CELERY.—Incomparable Dwarf; Seymour's Superb, largest growing, suitable for hot, dry climate.

CORN.—Mexican Sweet, sweetest and tenderest Early; Trimble's Improved Sweet; Crosby's Early; Stowell's Evergreen; these are the very best varieties of sweet corn with which I am acquainted.

CUCUMBERS.—Early Cluster; White Spined; Early Frame and Long Green Turkey.

EGG PLANT.—Early Long Purple, earliest; Long Purple; N. Y. Improved, and Striped Gaudaloupe.

ENDIVE.—Green Curled; Moss Curled; use, Summer and Fall salads.

KALE.—Dwarf German and Green Curled Scotch; winter and spring greens.

LETTUCE.—Early Curled Simpson; Green Winter; Black Seeded Butter, and Ice Drum-head.

MUSKMELON.—Green Citron; Nutmeg; Borneo; White Japan, and Skillman's Netted.

WATERMELON.—Mountain Sprout; Black Spanish and Ice Cream. Green Citron for Sweetmeats.

ONIONS.—Wethersfield Red; Danvers Yellow; White Portugal and Potato.

PARSNIPS.—Hollow Crowned; Round Early or Turnip, for shallow soil.

PEAS.—Early Kent; Carter's First Crop; Dan O'Rourke; McLean's Advancer; Champion of England and Black Eyed Marrowfat.

PETERS.—Squash, for pickling; Sweet Mountain for stuffing; Cayenne.

POTATOES.—Irish.—Early Rose; Early Mohawk; Early Goodrich and Orono.

SWEET POTATOES.—Yellow Nansmond.

RADISHES.—Long Scarlet Short Top, and Scarlet Turnip.

SALSIFY.—Vegetable Oyster.

SPINACH.—Round leaved for early; Prickly for wintering.

SQUASH.—Yellow and White Bush Scaloped; Summer Crook-neck and Boston Marrow for summer. Hubbard; Yokohama and Winter Crook-neck for winter.

TOMATOES.—Trophy, largest and most solid; Gen. Grant, Lester's Perfected and Tilden.

TURNIPS.—Early Flat Dutch; Red Top Strap-leaf, and Ruta Baga.

Aside from these we want Sweet Fennel, Dill, Coriander, Caraway, Hoorhound, Sage, Summer Savory, Thyme, Sweet Marjoram, Rosemary and Saffron. W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

WHY DON'T THE BUTTER COME?

I see by the FARMER of to-day, that Mr. S. of East Burke, Vt., asks that *same old question* that has been asked and answered a thousand times already, "Why don't the butter come?"

I do not expect to answer it so that it will stay answered; but will only give a few facts from my own experience of ten years at butter making.

I used to think I could take cream from any dairy and make butter from it in an hour by putting it at the right temperature.

I preached that way till I had an opportunity offered me to try it. One of my neighbors tried to churn. The cream had not been kept under the best conditions for two weeks. Some of it had been frozen, and some of it scalded. Nor had the cow been grained very highly or salted regularly. The cream was brought to the kitchen and poured into the churn, then placed near the stove to warm.

After warming awhile, the lady of the house commenced operations. She churned an hour, then let her girl churn two hours, then she tried it again, and they took turns and kept the crank revolving all day. In the evening the man churned till bed time. The next day it was started again, and it was kept churning more or less every day for *two weeks*.

It was pronounced too cold, too warm, and too everything. It was warmed, and cooled, and salted and treated to a dose of saleratus. Hot water was poured in, and so was cold water; but, most of all, it was *churned!* The mother churned it, the father churned it, and the young folks all took turns at it. It was knitting work for the whole family.

As a last resort, they sent to borrow my churn, and I was foolish enough to offer to take their cream and churn it for them. I brought it home, obtained the right temperature by the thermometer, then *churned* that cream,—only stopping for meals and lodging—*two whole days*.

By this time the cream was completely *worn out*, and I was thoroughly cured of *preaching* on the subject of churning.

But about the *facts* in my own weekly practice. I feel just as sure of butter within forty minutes as I do that a kettle of potatoes will be boiled within that time, when placed over a good fire. I can make the butter for a week with very much less care and anxiety in mid winter than in mid summer, because it is easier to make winter weather warm, than to make summer weather cool.

I sometimes salt my cows, and the butter comes well; again I do not give salt for weeks, and the butter comes just as well. I do not often let my cream freeze, but if it does, the butter comes just as well for all I could ever see. I never do put salt in my cream while it is being gathered, nor do I object to it.

I have never used sugar or saltpetre, neither

do I say I never will. I once thought I never would color butter. I now think differently. I once thought there was an exact temperature at which all cream should be churned. I now vary nearly 10° between summer and winter. In summer I churn at a temperature from 58° to 62° , in winter from 61° to 68° . I want the butter to come so it can be worked,—not too soft nor too hard. I find winter butter harder than summer butter at the same temperature.

My cows are at all times kept in good condition, so I do not know whether I could churn cream from half starved cows or not.

If I were going to preach again about churning, I should say that it is very important to have *all* the cream of a churning *alike*, as to *temperature*, and *sourness*, at the time of *commencing* to churn.

I am very particular to stop gathering cream at least twenty-four hours before churning; and I *never* fail in fall, winter or spring to warm all my cream over a stove: stirring constantly all the time, at least twelve hours before churning. Then I wait for it to get sour alike all through. Then bring it again up to the right temperature and churn it. I intend to warm it the first time up to about 70° . I never scald milk or cream, but keep both as near the proper temperature as possible all the time.

Now, if Mr. S. gets any new ideas about churning, from having asked the question, and either *succeeds* or *fails*, I wish he would report, in the FARMER; for it is only after making many experiments, and under many differing circumstances that we can be sure of having gained a correct position.

A. W. CHEEVER.

Sheldonville, Mass., Jan. 7, 1871.

For the New England Farmer.

KANSAS.

MR. EDITOR:—I have read Mr. E. M. Cleveland's article on "Kansas," and your remarks appended to the same, with much interest. I am somewhat conversant with that "Kansas region." I endorse all that Mr. Cleveland says as to its beautiful scenery. The landscapes are boldly beautiful, and sometimes rugged and picturesque. There is much level and gently undulating surface; yet there is continual relief from that level tameness found in many prairie countries.

There are many features of natural beauty never met with in Kansas. There are no mountain torrents or snow-capped peaks so frequent further West; no parks, canyons or gorges, shut in by deep gorgeous forests; no rugged sea coast, with driving billows and ascending spray, singing the thrilling music of nature, and forming fine haloes and rainbows in the atmosphere.

The first time I stood on Blue Mount, at Manhattan, near the mouth of the Big Blue,

I was much impressed with the natural beauty of the scenery, and the sweetness and purity of the air. It was a bright September afternoon. Nothing obstructed the sight in any direction. The views up and down the Kansas river, and up the Blue, were indeed very fine. The swollen waters quite filled the river beds, and the shrub-like timber fringed their margins in groves and thickets, as far as the eye could reach.

Beyond and between the river valleys the rugged tumbling prairies, elevated some two hundred feet above the streams, almost confused the senses by their picturesque undulations, abrupt upheavals, tower-like mounds and deep ravines. At first it appeared as if nature, gone mad, had thrown the hills and valleys to the four winds, because she "would none of them;" yet on inspection there appeared to be much "method in her madness." The ridges were more or less connected, and could be approached, in some way, one from the other, and they doubtless were all more or less related to some great back-bone or dividing ridge of table land. The valleys and ravines all tended toward common outlets, emptying at last into the rivers. The soil of these prairies along the Kaw river, contains no gravel; but limestone crops out in quarries everywhere along the hill sides. These quarries show their grey outlines through the green grass for miles, and form no inconsiderable feature in the landscape.

These lands have good soil, produce fine grasses, and for sheep pasture or hill side vineyards, appear very appropriate. But for ploughing purposes, as we understand the matter in Illinois, nothing could be more absurd.

I have now spoken of the roughest portion of Kansas I have met with. Passing westward along the Kaw river, to the mouth of the Republican, and thence up the Smoky-hill branch, past the mouth of the Solomon to Salina, near the Saline river, every grade of prairie is met with, from the most hilly to the dearest level. At Junction City, near the Republican river, is found the celebrated magnesian limestone, extensively used for all fencing and building purposes. It is destitute of grit, and is readily sawed into shape by several steam saw mills located in this vicinity. At Solomon City a considerable quantity of salt is made from water pumped from wells. South of Salina, on Gypsum creek, are extensive beds of gypsum, ready to be utilized when the needs of the people demand it.

The soil is, everywhere, all that heart can wish, and when there is sufficient rain it is wonderfully productive. There is a strong tendency in the climate toward aridity. The word *drought*, in Kansas, means a great deal, and is much feared even by the most courageous. The most of the rains, however, have a wise habit of falling in April, May and June, thus giving crops a good start. Grass and the small grains from this cause generally do well;

but the corn crop must run the gauntlet of July and August, which is extremely hazardous, unless the season be unusual, or the preparation and cultivation of the soil exceptionally good. This aridity of climate is favorable to health. There are no swamps or stagnant pools. The level lands about the streams are underlaid with sand, so that the water in the flats and bayous, disappears as soon as the supply from the clouds or upper streams is discontinued.

For most tree fruits, and for grapes, the soil and climate of Kansas appears well adapted. For the small fruits, special nooks and protected valleys must be selected about springs and the margins of streams.

Kansas is a first-class stock-raising State, yet on that subject I think your correspondent is a little wild. How he can get *one hundred per cent. per annum profit* from a herd of stock, I cannot imagine. Is the young animal at one year old, worth as much as the parent? And does he count the year's attendance, salt, taxes, loss by death, straying, &c., as absolutely nothing? I cannot understand his figures! It is easy, in new countries like Kansas, to talk flippantly of stock keeping in good condition the year round on the wild range. Slipshod pioneers often allow their cattle to browse for a living through the winter; and by seeking the brush and herbage in protected ravines they generally get through; sometimes in tolerable condition, but more generally with lank bodies and decimated numbers. This state of things, too, is but temporary. It passes away entirely as the country is settled and the range exhausted.

No man desiring to *make money by stock-raising* in Kansas will trust his herds to the wild range in winter. At present he can put up plenty of good prairie hay, which costs but the cutting and stacking. This answers a good purpose. Yet cattle do not get remarkably fat upon it. As this resource fades away, under the pressure of an incoming population, tame pastures and meadow hay must take its place. And the change will be a happy one.

Kansas is a noble State. She is being rapidly settled and her resources developed by an energetic industrious people. All must feel pleased at this, and many thousands will better their condition and prospects by joining their destinies to that of this young rising star. Yet I must say that new countries are seldom permanently benefited by exorbitant praises and over drawn statements of natural advantages. I feel much interested in the prosperity of our young Western States, and should any one desire further knowledge of the country along the Kansas river, as far West as Junction City or Salina, they may address me, and I will reply through the *FARMER*, if agreeable to the publishers.

JOHN DAVIS.

Box 50, Decatur, Ill., Jan. 8, 1871.

ly increasing. It is stated upon reliable authority that the use of annatto for coloring cheese and butter has been discarded in some of the New York cheese factories. A number of the Herkimer "fancy factories" (so Mr. Willard reports) made uncolored cheese all through the past season, and the sales of such cheese were at the highest rates received at the Little Falls market. From the fact that much of the annatto used for coloring butter and cheese is adulterated with poisons, its use should be discontinued. It adds nothing to the palatable qualities of cheese, and if it were not for the requirements of the English market for high-colored cheese, it is probable that there would be little difficulty in excluding annatto from the manufacture of cheese. For American use, it might be dispensed with at once.

BUTTER MAKING.

The New York *Tribune* gives the following as the points of Mr. O. S. Bliss' address at the late Dairyman's Convention at Utica, N. Y.:

It is not true that the management of a good butter dairy has been reduced to a science. We cannot too earnestly urge the necessity of cooling the milk as soon as it is drawn from the cow to about 58 degrees, after which an increase of several degrees may be permitted, with advantage to both quantity and quality of the butter. To this end I advise tanks, holding say 30 gallons of water, in which the newly filled pans may be placed. A supply of running water would be most convenient for this purpose, but it is not indispensable. As a general rule the amount of water required for cooling a mess of milk in a properly constructed tank may be very readily supplied from a well without any very great expenditure of force. I would not recommend the use of ice in butter making, except in extreme cases, and only in water for cooling milk or cream. With good cows, good feed, and proper accommodations for setting the milk, there is little difficulty in making good butter, but it must be confessed, after all, that it is, in a sense, an occult science—there is a sort of slight about it which, if it does not come by nature, must be acquired by experience. We may lay down positive rules for every operation, but the circumstances in which different dairies are situated are so various that these rules, founded upon the highest success in one instance, might not prove just the thing in the other. In conclusion, I advise that skimmed milk be put into the swirl-barrel, and not be made into cheese. When fed to pigs supplied with waste material from which to make the coarser and absorbent portion of the manure, it will pay better than in any other way. One year with another it is a question if the pigs themselves will not pay quite as well as the skimmed cheese, and the manure remain as net profit.

UNCOLORED CHEESE.—The demand for white or uncolored cheese is said to be stead-

TREES,

Ornamental and Fruit—Their Cultivation—How they Grow—Their Diseases, Enemies, and Uses.



IN ORDER to reply to numerous questions in relation to the setting and culture of ornamental and fruit trees, we propose to give between this and the planting season, several articles upon the subject, and advert occasionally to some of the wonderful operations in vegetable physiology.

The study of this branch of science, like that of chemistry, presents a field for investigation in which the proudest intellect may find ample scope. If we take the simplest plant and examine it with reference to its anatomical structure, aided by some of the instruments of enlightened skill, we shall find that in all its parts, nature has evinced the same wisdom, as regards the primary principles of vegetation, adaptation and combination, which characterize her labors in higher works of her production. The incomprehensible variety of *forms*, in which first principles are made to develop in the manifestation of perfect *wholes*—ranging through the entire series of qualities, hues, odors and flavors, cannot fail of being a source of the most pure delight to the enlightened mind.

What, for instance, can be more dissimilar, so far as structure and apparent character are involved, than the tough, elastic, and well-known substance called India-rubber, and the granular, sapid and nutritious product of the sugar cane? Yet in the laboratory of the analytical chemist, these apparent boundaries are said to vanish almost instantly; while the article of linen,—the materials of which have been grown upon a foreign soil, and carried through the processes of rotting, bleaching, &c,—is resolvable into a substance identical with both. By the side of the lordly pine, fit for

"The mast of some great admiral,"

grows the deadly hen-bane, or the fatal nightshade. Yet these plants, so different in outward aspect, and internal qualities, have all been nourished by similar alimentary particles, and perfected from the same soil!

The *humus*, or decayed vegetable or ani-

mal matter which we apply to apple or pear trees, is first dissolved, then it is absorbed by the rootlets or spongioles of the tree. This fluid thus taken in by these roots, is elaborated not simply into one product, but many. We trace it in its progress, and find that it produces under one modification, *wood*; under another, *leaves* or *bark*; under another, *flowers*, *fruit*, and the *seeds* of fruit. If an apple graft be inserted, that fluid is capable, under the influence of the principles of life, of producing the fruit natural to that graft, or of being elaborated into the fruit of the tree through which it ascends. If a scion of the Siberian crab be inserted on a stock of another variety, the fruit of each will retain its own distinctive family combination and characteristics unimpaired. The wonderful power in nature, by which this singular immutability is preserved, is concealed from the eye of the physiologist. It is a power lodged amid the arcana of her most retiring rudiments, and which we are permitted to contemplate only in its results.

"Far from all vision this profoundly lurks,

Through the whole system's utmost depth diffused."

There are several kinds of twining plants which ascend their supporters only from left to right. The hop is never known to ascend from right to left; if inverted, and forced to assume a direction contrary to that ordained by nature, it will sicken, lose its native hardihood and vigor, and, most likely, die.

The roots of all plants are commonly regarded as the sole media through which they derive their food. We consequently attach to these organs the highest degree of importance as forming the link of communication between the *earthly* and *airy* portions of the vegetable kingdom. But important as are the offices of the roots, they are scarcely more so than those of the leaves. The human lungs expose the blood to the air, and thus prepare it for nourishing the system through which it circulates; and in like manner the sap—which may be regarded as the blood of plants—is exposed and "aired," or aerified by the leaves of vegetables, which are their lungs.

So far as the economy of nutrition is concerned, the leaves of the oak, the ash and the elm, aspire and spread themselves abroad for the very same purpose that the minute spongioles permeate and diffuse their innumerable roots through the recesses of the soil; both are in quest of food, and the only difference be-

tween them is, that while the latter appropriate only liquid matters, or those alimentary particles which have been previously prepared for absorption and assimilation by solution, the former take in only gaseous or aeriform principles. This position has been repeatedly demonstrated by experiments, and few who have contemplated the evolutions of nature, will doubt its correctness.

If we bury the limbs of some plants, and elevate their roots into the free air, we shall find that the developement, as well as the position of the structure, will be reversed; the part having on it the roots will put forth buds and leaves, and the inhumed branches assume the character and perform the office of roots. The willow affords the most complete illustration of this principle of adaptation in plants. A twig or sucker of this wood, inserted in a moist soil, with its natural position reversed, will grow almost as vigorously as a seedling, and in a short time become a thriving tree.

During the night, plants are believed, by most, to evolve carbonic acid; but this process is by no means so rapid, or so extensive in its products as to destroy the balance in favor of the plants, so far as regards the quantity absorbed by them during the day. The quantity of this gas taken in by the foliage is graduated in a great degree by the season, climate, soil and specific character or nature of the plant. On a general estimate it is perhaps safe to assume that of the entire amount of carbon contained in the crops of our fields,—if the soil thereof is of medium fertility,—from one-third to three-fourths is derived directly from the air.

The functions performed by the leaves of plants, are singularly varied and beautiful:—

"In human works, though labored on with pain,
A thousand movements scarce one purpose gain,
But God's, one, single, can its ends produce,
Yet seems to second, too, some other use."

When we look upon mighty forests, spreading as far the eye can reach, "piercing the summer heavens with their unnumbered cones,—when we survey the bosom of the earth clothed in all the wild luxuriance of variegated verdure, and yielding its diversified and inexhaustible wealth for the support and happiness of man,—we seldom reflect that the elastic fluid which the hand of Omnipotence has drawn around our planet is the source from which this vast

assemblage of beauty and utility is derived." We are too apt to attribute the production of all this to the earth, and to regard the atmosphere—like the old philosophers—as an empty void, incapable of furnishing anything of importance or usefulness to plants, and nothing but air to man!

There is not a leaf, however minute, that "spreads its glossy surface to the summer's sun, which does not drink from this wide source of life the aliment which sustains its being; all are alike indebted to it, and all alike would perish were they to be deprived of it." The elements of the common atmosphere, therefore, being of so much importance, it is of the utmost consequence that we endeavor, as far as possible, to avail ourselves of its assistance, which we are enabled to do in several ways.

GROWING VIOLETS.

The Violet has ever been one of my favorite window flowers. In former years when brought into the house from the cold pits to flower, they were placed at once in the sitting-room window, where we had a regular temperature of about sixty degrees; but the stalks were always slender, and the flowers rather small. Thinking it was too hot, I kept them other years in a cooler room, where the heat might perhaps not range over between 45 and 55, and the result has been much healthier looking plants and finer foliage. Besides this, they were not much behind what I have had in warmer places in other years. I am sure they want very little heat to do well.

Another fact. I have learned that a manure water made of rotten wood is a capital fertilizer for them. Once I thought, as shady places were the natural places where Violets grow, rotten wood would be a good thing in the soil, but they sometimes get sick in it; but the liquid of steeped wood does not seem to have this effect; on the other hand, a lively green is the result. We never water them except when they show signs of drying; in our room, this is about twice a week.—*Gardener's Monthly.*

HOW TO COOK EGG PLANT.—Pare out the plant in thin slices; let it stand for two or three hours in cold water, well salted, which removes a strong flavor and makes it more delicate; when thoroughly drained, dip each slice into egg and cream, well beaten, (two eggs and two tablespoonfuls of cream), then into cracker crumbs. Have ready a large frying kettle of boiling lard, frying a few slices at a time; they need room, if you would have them delicate and crisp. Stewed tomato is very nice with egg plant.

EXTRACTS AND REPLIES.

LICE ON CATTLE.

Will you or some of your correspondents inform us here what is the best remedy for lice on cattle? My whole stock are covered with these pests, and they seem to laugh and grow fat and increase in numbers by every exertion on our part to remove them. If any of your readers can give us a method by which we can get rid of them, they will be conferring a great favor on A CONSTANT READER.

Alfred, Me., Dec. 22, 1870.

REMARKS.—Healthy cattle are seldom lousy in the summer season. Why should they be lousy in the winter? Where did the pests come from that now cover your stock and "laugh you to scorn?" Are your cattle poor? Is your barn infested? Sulphur fed with salt; applications of carbolic acid and oil; a thorough saturation of the whole body with a pint of strong soft soap in a pail of warm water, to be repeated in half an hour, and in half an hour more wash out all the soap and dead lice, and cover the animal with a dry blanket; brick dust, obtained by rubbing two soft bricks together, sifted over and well rubbed into the hair; a wash of one pound of sal-soda to two quarts of water; have the cattle fat when they come to the barn in the fall, and, during the winter, keep the tallow gradually increasing about the kidneys; applying on a warm day to a space six inches wide on either side of the back bone from head to tail, a mixture of a little sulphur mixed with melted lard,—these are among the prescriptions recommended in the Monthly FARMER for 1870. If you have lice in Maine that will laugh and grow fat on all these infallible cures, then we must join in your appeal to our readers for something that will turn their joy to grief.

WHY THE YOUNG MEN LEAVE THE FARM.

I have been very much interested in perusing articles bearing upon this subject in the FARMER and other papers, and now, with your permission, I will state a few of my ideas concerning the same, because I am one of "the boys," and think I know the reason why so many of them become discouraged with farm life.

I think one reason is to be found in the unattractive appearance of the place, together with shiftless management. As a natural consequence, labor on such a place being unprofitable, the boys seek some other employment. Again, they are obliged to work harder and longer on such a farm, because of the rocks, brush, rubbish, tumble-down buildings and "scraggy" walls.

Then, the neglect on the part of the parents to make work interesting. The boys notice these things; they also notice that the workmen in the cities and towns command good wages. Hence they flee to the cities and towns as soon as possible, in the hope of bettering their condition; for, you know, they are ambitious,—they think of the future. Now, I ask, do you blame them? I don't. But at the same time I don't like the idea of their leaving the farm, and for this reason I write this article. I want to have the parents of these wayward boys think of these things. I want to have them take the matter in hand, and cause the boys to love home, to love the farm. Teach them in the art of farming; provide them with instructive reading matter and with amusements; take an interest

in their future welfare; do it all in a kind manner and the boys will remain.

I will close with the following, which I take from "Recollections of a Busy Life," by Horace Greeley, which contains the gist of the whole matter. "Our farmer's sons escape from their father's calling whenever they can, because it is made a mindless, monotonous drudgery, instead of an ennobling, liberalizing, intellectual pursuit."

Westboro', Mass., Dec. 21, 1870. YOUNG MAN.

REMARKS.—We have done with worrying about the boys leaving the farm. We believe that the whole matter will regulate itself in due time. For the last twenty-five or more years manufacturing and trading have been very prosperous throughout the land, and these pursuits have been unusually lucrative. Farmer's boys have crowded into them until there is scarcely standing room for anybody. Cities and villages have outgrown the country. But "it is a long lane that has no turning." We believe we are now on the corner of one of those turns.

A few years ago a trader would fill a store with goods, put up a sign, perhaps advertise, and then sell his goods "over the counter." Customers came to his store or shop, then. Now the city merchant must add to all these expenses the cost of "runners" enough to cover the whole country. Last fall when we were down some one hundred and fifty feet under ground, in one of the marble mines of Vermont, the superintendent of the works was looking over specimens of files which filled the travelling bag of a runner who had found his way thither from some manufactory or hardware establishment. And so it is with all kinds of goods—they must be carried to the consumer, whether on the top of the mountains or in the bowels of the earth.

A few years ago the farmer that fattened a pig, or made a tub of butter, or a few cheeses, or dried a bag of apples, &c., must fry a box of doughnuts, harness up the old horse, tuck in a bag of oats, and make a journey of one to fourteen days to reach a market, and that often one of exchange, merely. Then it was the farmer that had to hunt up and seek out the consumer, as best he could. Now the city folks, who command the great wages that "Young Man" talks about, besiege every farm house, with the money in their fists, begging to buy everything raised, at prices which would have been deemed fabulous in those old truck-and-dicker times. So far as butter is concerned, Faneuil Hall has been moved up to St. Albans, Vt., and the cheese mart of the nation has migrated from New York city to Little Falls, N. Y. City people are beginning to be alarmed at the cost of living. Some cry out for a "Free Market;" some denounce "speculators;" some curse "capitalists,"—some one thing, some another,—any thing or any body, by which they can express their sense of the deplorable condition to which they are reduced by the "extortionate people" who raise and furnish their daily food. A beautiful place, the city, for young men "who think of the future!"—

who count the cost of making a home and of raising a family therein.

FOOT ROT IN CATTLE.

For the first time, do I take my pen to write for or to the FARMER, and I do not know as I should have done so now, had I not seen an inquiry from H. J. Harris, in reference to that terrible disease, the foot rot in cattle. He wishes for a remedy to prevent and also to cure it. I do not know of a remedy to prevent it. But there is a remedy to cure it after the creature has an attack of it. It is this: when the creature is first lame, take the foot that is lame and fix it in the same way that an ox is shod, by placing the foot in a block, then take a chisel and cut off the ends of the claws, so that it will bleed freely, and in a day or two it will be well as ever.

OTIS T. STREETER.

Westborough, Mass., Dec. 6, 1870.

REMARKS.—We do not understand why this operation should effect a cure, unless the disease is caused by an unnatural growth of the hoof. In the case of sheep, whose hoofs often become deformed, it is common to trim them down. It may be equally beneficial in the case of cattle. We hope that those who have had experience with this disease will favor the public with their experience. We fear that the disease is a more serious matter than is generally supposed, and cannot endorse our correspondent's advice. We hope the State Board of Agriculture will take immediate action in the matter, as we understand it has appeared among cattle at Brighton market.

ADVANTAGES OF FALL PLOUGHING.

A social gathering of farmers at the residence of Mr. E. M. Eaton, in Sunderland, Mass., Dec. 9th, briefly discussed the advantages of fall ploughing as follows.—Mr. Emmons Russell, a practical farmer of large experience, and a close observer, is fully convinced that his corn and oat crops are very much improved by ploughing the land the previous fall.

Mr. E. M. Eaton regards the practice of fall ploughing as an old traditional custom; or fashion followed by no beneficial results. By way of illustration he related an anecdote concerning a friend, possessing all the traits of a good thrifty New England farmer, who removed to Illinois and soon adopted the practice of fattening pork in the field, without shelter or floor, feeding the unground grain, simply because it was fashionable among the Suckers, knowing all the while it was not an economical practice.

Mr. Quartus Tower of Granby, is satisfied that ground should not be ploughed when wet, and a field may some times be in good condition to plough in the fall, when it would not in the spring.

Mr. Arthur Eaton thinks the additional cost of preparing ground to receive the seed will overbalance the increased value of the crop on fall ploughed fields.

L. P. Warner was of opinion that while some soils were not benefited and might perhaps be injured by fall ploughing, others were very much improved, and the succeeding crops considerably increased thereby. He had noticed in fields, a portion of which was ploughed in the fall, and the remainder in the spring, that the dividing line between the two sections were traceable by the different growth of crops during a whole rotation, extending over a term of four years,—the fall ploughed portion producing the largest crops.

Hard and stubborn soils if ploughed in autumn

or early winter, usually yield to the ameliorating influence of frosts, while the drenching rains of spring time distribute the elements of fertility evenly through the soil, whence they are readily taken up by the growing crop.

Sunderland, Mass., Dec., 1870.

REMARKS.—We thank our correspondent for his model report. While we have not room for discussions in detail, we might publish the "gist," as the lawyers say, of a great many talks of farmers' clubs. But did not Mr. Eaton get his story of the Eastern man at the West wrong? When "out West" ourselves we heard it in this form: A New England man thought he would show Western people how to feed economically; so, for a year or two, he lugged up his corn and fed it out Yankee fashion, at the same time keeping an eye on the working of his neighbors' system, and a few years convinced him that he was wrong and they right, under all the circumstances of the location.

SHARP STICKS UNDER MUCK—THATCHING PEGS.

With all due deference to Mr. Josiah D. Cannings' opinion about "Sharp Sticks under Muck," published in FARMER of Nov. 19th, I beg to give an opinion, also, on the probability of how the sticks came under the muck and who sharpened them. Perhaps I may be out in my calculation; yet it may not by some be considered out of place if looked at from another point of view.

The farmers generally of this great go-a-head country may not be aware that all stacks of farm produce in the Old World, (England,) are well thatched with wheat straw, to the thickness of from eight to ten inches. The process of thatching is as follows:—A lot of straw is placed on the rick of wheat, barley or other grain or hay, into which a lot of hazel sticks, called "thatching pegs," sharpened at both ends, are stuck, on which more straw, threshed by hand, is neatly placed lengthwise. The sticks being sharpened at both ends allow them to be easier pushed into the stack and the more easily to receive the upper or succeeding coating of straw. These thatching pegs are put in as the thatcher progresses with his work, to keep the straw from slipping off. When the last covering of straw is put on, other pegs with small hooks on them are used, and put in at regular distances apart, round which a small cord of tightly twisted hay is once wrapped, and goes the whole length or round of the rick; when the pegs with the hooks are pushed down into the stack on the lower side of hay-band or cord, with the hook projecting over the lines which are placed about eighteen inches apart. Ricks of grain or hay so covered or thatched will and do defy the rains and snows of *seven years*, or more, though the farmers of this Western world may scarcely credit the assertion. I have actually known farmers keep their wheat in stack for ten years, and their clips of wool for twenty years, waiting for higher prices; but that was before "steam ships" navigated the deep waters of the Atlantic, or the plough turned up the sod of the beautiful prairies of the West.

My opinion about the sharp sticks under muck is, that at some early period, the land where the sticks were found embedded belonged to an English farmer, who pitched off thatch, pegs and all when the wheat was thrashed, which gradually rotted away, and to which year after year, more thatch, more pegs and more muck were added, never dreaming that his land was crying out for want of the muck he so carelessly suffered to go to waste. The farm, too, may have changed hands

several times, as it is no new thing here for farmers to "pull up stakes," and move on toward the setting sun, leaving a happy, comfortable home which they have worked, and striven, and plodded hard to make, to go and begin the world afresh, as it were, and build another home for the next dissatisfied successor. I shall be happy to see other remarks about "The Sharp Sticks under Muck."

JOHN WHATMORE.

Bridgeforth Farm, Dunleith, Ill., Dec. 5, 1870.

REMARKS.—Evidently our correspondent is after somebody, "with a sharp stick." But to see the "point" we must remember that fresh manure is called "muck" in England, and that in Illinois, farmers move barns instead of the huge piles of "muck" and straw which accumulate about them. His description of thatching hay and grain in England may be interesting to those who must either make stacks or "pull down their barns and build greater."

TOBACCO MARKET.

Owing to the dry weather the farmers have been unable to take down their tobacco, and buyers have not commenced to buy much. We may be able to give more sales soon. We are informed that the Southern and Western tobacco is very good, and that purchasers have invested more money in tobacco from those sections than usual at this time. Throughout the Valley and even among the mountain towns, the area planted with tobacco is yearly extending, and it is good this season. The farmer wants all he can get for it. If they combine as a whole and insist on a fair price and stick to it, they may obtain it, though buyers or middle men, as in all other kinds of business, are bound to have the largest share of the profits, though the farmer has the largest share of the taxes to pay, and needs all he can get to pay the expenses of raising his crops, to support his family, &c. We often hear it said that a nimble sixpence is better than a slow shilling, and if farmers can sell for cash now and get a good fair price, we should advise them to let the tobacco go; if not, all hold on to it, sort it well and pack it down, and it will sell before the year comes round.

SORTING TOBACCO.

Take down your tobacco on a moist day, and pack it. As you strip it, let one man strip, one make a careful selection, dividing it into three grades; have a table before you, a good fire in your room, and do it up nice and it will sell for better prices. When well sorted, pack each grade closely in boxes and await the buyers' time.

TOBACCO GROWER.

East Longmeadow, Mass., Dec. 20, 1870.

COLORING BUTTER.

Please inform us if there is anything we can color our butter with. If so, how much to the pound, &c. We are new beginners at butter making, and some of our customers object to the color of our butter.

A SUBSCRIBER.

Harmony, R. I., Dec. 2, 1870.

REMARKS.—In the height of grass feed butter is yellow enough; hence the most natural way to color butter is to feed early cut and carefully cured hay, with mashes of carrots and Indian meal. But such fodder is not always at hand, and the butter of cows kept on fair hay is often too light colored for the fashion, and some harmless coloring material is sometimes mingled with the cream,

just to please the eye. If carrots are used, clean them nicely, then scrape off with a knife the yellow outside only, soak it in boiling milk about fifteen minutes, then strain through a fine cloth, and add the liquid to the cream before churning. Instead of injuring the butter, some think that a little carrot gives it a sweet, June taste.

Annatto is used extensively by cheese makers, and if pure, will answer as well for butter, but the common article in the market is said to be much adulterated. Mr. Willard recommends "Nichols' English Liquid" as the best.

Mr. Willard gives the following directions for preparing the common article for factory use. Similar proportions for small quantities. Take four pounds of best annatto, two pounds concentrated potash, five ounces saltpetre, one and a half pounds sal-soda, and five gallons boiling water. Put the ingredients into a tub, pour on the boiling water. The annatto should be enclosed in a cloth, and as it dissolves squeeze it through the cloth in the liquid. About two ounces of this mixture is sufficient for one hundred pounds of curd in summer. At first use too little rather than too much coloring matter of either kind.

Mr. A. R. Bailey of Elmore, Vt., makes the following statement in the *Vermont Watchman*, which was received since the foregoing was written:—

I have until recently used carrots for giving butter color, but when at the Dairyman's Association at St. Albans last winter, I learned from practical dairymen that annatto was by far the best agent for coloring butter. I was advised not to get it at the drug stores, but to get it all prepared in liquid form. It can be obtained of Jones & Faulkner, dealers in butter and cheese, 141 Genesee street, Utica, N. Y. I obtained some from the above named parties last spring and find it perfectly satisfactory.

AMERICAN IMPROVED SUGAR BEET.

Last spring you wrote an Inquiry about the "American Improved Imperial Sugar Beet"—its characteristics, and wherein it differed from other sugar beets. Without giving you a very full description, I promised to send you a few specimens of this year's crop of this variety of beet. In accordance with that promise, I have this day directed to your address, by express, a box containing four beets. These are not selected on account of size, but to show you the shape and form of growth. You will notice how free they are from small fuzzy roots, so common on other varieties. I have raised this variety for ten successive years without a failure. Thus far, no insect has injured them. Since I have raised them as a field crop, doing nearly all the labor after thinning and first hoeing with horse and cultivator, my crop has been larger, and at an expense of but little more than is usual with corn and potatoes by the acre. The produce has often reached forty tons per acre. The four beets I send you weigh 8½ each, or thirty-four pounds. I could show you one thousand bushels grown on one piece of land, that without any sorting would average eight pounds per beet. One of my neighbors drew a load three miles, to Middlebury, that was taken from a field of 1300 bushels; the load being made up of beets just as they grew, without any sorting. The load weighed 2350 pounds, and by actual count there were only

257 beets in the load; making the average weight per beet, 9½ pounds. I have raised various varieties of turnips, carrots and beets, but no variety of roots could I raise as cheap as this beet, nor any that would produce so large an amount of healthy nutritious food to the acre. This beet has superceded all other roots in this vicinity.

Cornwall, Vt., Dec 14, 1870. HENRY LANE.

REMARKS.—The four beets were duly received, and according to Boston scales they weighed thirty-five pounds,—showing a gain of one pound from our correspondent's weight. They are certainly smooth well formed roots.

PROPER TIME TO CUT WHEAT.

A little experiment I made two years ago may possibly be useful to some of your readers. Previous to 1868, I had an idea that wheat was left to go over-ripe, and that it should be cut a few days earlier than it generally is. In order to test this opinion I took a few ears of wheat from part of a field which I considered about an average in soil and grain. These I hung up to dry. In six days I cut the crop and took more ears which grew near the place where the others had been cut. These I marked No. 2, and hung them up also to dry. In the course of a month I got a small pair of scales, nicely balanced, rubbed out the first sample and put it in one side, and then sufficient of No. 2, to balance it. This done I counted the grains, and, to my surprise, found in first sample 848 kernels, while in the 2nd there were only 737. Not satisfied with this, and having more wheat left from No. 2 sample, I tried it again with a fresh quantity, but with as nearly as possible similar results. From this it would seem that the loss in weight from cutting wheat a week before it was ripe is as nearly as possible one in seven; that is, one bushel in seven, or one acre in seven; or, supposing that the straw and quality of grain is a little better in the early cut, there must still remain a loss of four or five dollars per acre.

Of course I am as liable to errors as any writers, but I think this plan of experiment so simple that any one may try it for himself. The weight of a given number of grains I think a safer guide than the produce of a measured space.

JOHN WHATMORE.

Bridgnorth Farm, Dunleith, Ill., Dec. 10, 1870.

PROFITABLE PIGS.

I killed two pigs eight months old, that weighed 687 pounds when dressed. The following is what I sold them for and what they cost me.

687 pounds pork sold at 15 cents	\$103 05
Paid for pigs when 4 weeks old	\$10 00
31 bushel meal at \$1.13	35 03
2 bushel corn at \$1.20	2 40
4 bushel potatoes at 50 cents	2 00
10 bushel apples (wind falls) at 20 cents	2 00
	<hr/> \$51 43

Leaving a profit of \$51 62

which I think is doing well for the first time; but I am in hopes of doing still better next year.

West Newfield, Me., Dec. 12, 1870. C. J. ADAMS.

DRY, CRACKED AND MISSHAPEN HOOFES IN HORSES.

I notice an inquiry in your paper what to do for a horse's feet when they become hard and dry. I am no horse doctor, but I can tell what I have done in a similar case. We keep on this farm two horses for farm work and other uses. In the summer of 1869 their feet became dry and hard. One is naturally flat-footed. His feet grew at the toe, and contracted at the heel, and cracked cross-

wise. The other had a straight hoof. His would split up and down the edges, were brittle, would crumble off so much that it was difficult to keep him shod. It appeared to me that they needed some grease or oil, or something else, to soften and toughen them. About the first of September, I took oil, which we keep in the barn to oil our wagons, and applied to their hoofs in front, and up into the edge of the hair, also to the bottom of the foot. We did this once a week for a spell; after that not so often. Their feet became better after the first application, and after a while became all right. This last summer we have used the oil with their feet. The oil seems to be just what was wanted, and brought their feet to the natural shape and condition.

R. DAVIS.

Troy, Vt., Nov. 30, 1870.

BEANS FOR GARGET IN COWS.

Some six or seven years ago, I saw beans recommended for garget in cows, in the FARMER, by a gentleman who had a cow so badly affected that she was nearly spoiled, but she got to a stack of beans and ate what she wanted. The result was she was cured. Since then I have used nothing else, and it has never failed to cure as yet. Beans, we all know, will do no harm, and it is a medicine that all farmers have on hand, or ought to have. At first I soaked a pint to a feed, and mixed them with meal to make the cow eat them; but now I keep ground beans, as I think the meal is the best. This fall I had a very promising two-year-old heifer become so bad in one teat that I could scarcely milk it, and the milk was very chunky and bloody. I gave her one pint of the meal, mixed with other meal, for four days, when she was as well as ever, and has remained so. I think if cows were to be fed with bean meal two or three times a year, they would not be troubled with garget.

C. F. LINCOLN.

Woodstock, Vt., Dec., 1870.

THE COW DIED AND THE CAUSE DISCOVERED.

In a communication of mine published in the FARMER, of (I think,) the 20th of June, I gave an account of a very singular case of sickness in one of my cows, and I think it due to the readers of your paper to inform them how it terminated.

Three days after I wrote the article alluded to, the cow made an ineffectual attempt to calve. In investigating the case, it was found that the os uteris had not relaxed, so that no help could be rendered without first cutting that part of this organ. This would no doubt have resulted in the death of the animal. In less than twenty-four hours the cow was dead. A post-mortem examination brought to light the following facts. The calf was doubled, so that the points of the gambrel joints were forward and uppermost, as the cow naturally stood. The head was also forward, but under and between the hind legs. Whether the calf died previously to the cow, is a matter of doubt; certainly from its appearance it could not have been very long previous.

T. L. HART.

West Cornwall, Conn., Nov., 1870.

FOULS IN CATTLE.

I never saw a case of this disorder as bad as that described by H. J. Harris, of Stowe, Vt., in a late number of the FARMER, but I never knew a few applications of equal parts of soft soap and the pitch of white pine, simmered together, fail to cure any case of ordinary fouts.

E. P. G.

Pelham, Mass., Dec. 5, 1870.

—Iowa has planted fifteen million trees within the last three years.

For the New England Farmer.

KANSAS.

A late writer says: "I wonder if the Almighty ever made a more beautiful country than Kansas! These broad prairies, starred and gemmed with innumerable flowers, threaded by dark belts of timber, which mark the winding streams, and clothed in softest green, are a joy forever." And surely nothing can surpass the transcendent beauty of the natural scenery of Kansas. It is difficult for the stranger to believe that cultivation and art have not lavished their utmost skill in shaping and adorning much of its natural scenery. Terrace rising above terrace, with such regularity and beauty, carries the mind back to the cultivated and ornamented grounds about fine old residences in the East, while many of the bluff's look like forts in the distance. Then the air is so perfectly clear as to bring within the circle of vision vast extents of these rolling prairies, dotted here and there with cultivated patches about the cottages of the settlers, and numerous herds of cattle fattening upon these rich, luxuriant grasses. Until within the past year, not less than forty million acres of these nutritious grasses, in Kansas alone, have gone to waste, or have served only for the vast herds of buffaloes and other wild animals, which have roamed at pleasure over these broad acres.

Reckoning these grasses at the value of only two dollars per acre, here is a waste of eighty million dollars annually of a food-producing element.

But this, in the near future, is all to be changed. It is said that not less than a thousand immigrants a day have been finding homes in Kansas during the fall of 1870, and this flowing tide still continues even into the winter. These immigrants are from England, Scotland, Norway, Sweden, Germany, Canada and the Eastern, Middle and Western States of our own country; a majority of them coming from the Western States. Kansas is the last State of rich lands, within favorable latitudes to fill up; and the tide of immigration is so great, that she is filling up with amazing rapidity.

At present the State has a tax duplicate of less than one hundred million dollars. In fifteen years with the rapid development of Kansas, under her railroad system and general enterprise, she will have a tax duplicate of one thousand million dollars. Who will make this vast amount of money, destined to be in the State within the next fifteen years? Of course, those who own, occupy and improve the property that makes value for tax duplicates. Need any be surprised that so many are hastening to secure their share of this tremendous prize?

And what has produced and is producing this great immigration, which no other State has ever had? It is the fame of her surpris-

ingly healthful climate, and her wonderfully productive soil. The choice lands of the State are being taken by these settlers under the Pre-emption Act of 1841, and under the Homestead Act of 1862.

The Homestead Act gives to every loyal citizen of the United States, who has arrived at the age of 21 years, or is the head of a family, whether male or female, 160 acres of land, to be located on the public domain, wherever the settler chooses, at the nominal cost of \$18, which is for the survey and necessary papers. Foreigners who have declared their intentions of becoming citizens, and soldiers under age, are entitled to the benefits of the Homestead Act.

Population, capital and production make States, and they are making Kansas; and she now presents to the world a field as broad, a chance as great, a prospect as promising as the world ever opened up for the energy and enterprise of men.

Stock raising and herding are most remunerative, averaging not less than one hundred per cent. per annum, on capital invested. And Kansas will soon become the greatest beef-producing State in the Union. Her boundless ranges of natural pasturage, are capable of supporting millions of cattle, which do well and fatten during the entire year on the open range. And her richest of soils, varying from three to thirty, and, in places, over fifty feet in depth, will compensate the husbandman for his labor, in yielding the most bountiful crops of all the cereals, vegetables and fruits of the temperate latitude.

At the National Pomological Congress, held in Horticultural Hall, Philadelphia, Sept. 15, 1869, Kansas bore off the first premium, over all the other States in the Union, for her collection of "Fruits, unequalled for *size, beauty and flavor*."

The writer having just returned from a second tour through this young and buoyant State of the West, is more fully impressed with the superior advantages that Kansas offers over any other State, especially to capitalists and to young men who wish to make themselves a delightful home in an air the purest, a soil the richest, and a land the fairest that the sun shines upon.

Kansas, occupying as she does the geographical centre of the American Union, is destined to become the centre also of a countless population, and of vast interests. In her school system and educational advantages she boldly steps out in advance of all other States in making *free* all her higher institutions of learning, throwing wide open the doors of her seminaries, colleges and universities, and this not to one sex only, but to *both*, and to-day, even in her *free* State Agricultural College, there are more girls than boys, receiving the same course of instruction, and graduating with the same honors.

The eastern slope of the Rocky Mountains,

embracing Kansas, Nebraska, Colorado and Wyoming, owing to its peculiarly invigorating atmosphere, will yet produce the intellects, that will mould the destinies of nations and give laws to the world. E. M. CLEVELAND.

New Braintree, Mass., Dec. 20, 1870.

REMARKS.—Our disposition is to look on the bright rather than the dark side of all objects presented to view; still it is possible to polish up some things so bright and glistening as to compel one to turn away his eyes. We think our correspondent makes Kansas shine rather brighter than other visitors and the residents in that young State will think just, unless they have land they wish to sell. His remark that “not less than one hundred per cent. per annum on capital invested” in stock raising in Kansas is realized, leads us to mistrust that his observations during his two visits were not very thorough. Stock raising and fattening is undoubtedly good business in Kansas, but we mistrust there are many items of expense and risk omitted in any calculation which arrives at a conclusion of one hundred per cent. per annum. We mistrust also that there are exceptions to our correspondent’s representations of the “invigorating atmosphere” which rests upon the rich soil of Kansas.

For the New England Farmer.

MEDICAL TOPICS.

BY A MEDICAL MAN.

Poisons; their Symptoms and Treatment.

CONCLUDED.

PHOSPHORUS—This is an irritant poison, used in the manufacture of matches.

Symptoms.—A hot unpleasant taste; an acrid, burning sensation in the throat and stomach, nausea and vomiting, the matter vomited being of a dark color and emitting white fumes; the pulse is small and frequent, and not unfrequently violent convulsions end the scene.

Treatment.—Give an emetic promptly; also copious draughts of magnesia in water, and mucilaginous drinks.

POISONOUS FISH—Conger Eel, Crawfish, Dolphin, Old Wife, Spanish Mackerel, and several others.

Symptoms.—In an hour or two—often in a much shorter time—after the fish has been eaten, a weight at the stomach comes on, with slight dizziness and headache, a sense of heat about the head and eyes, considerable thirst, and often an eruption of the skin; occasionally convulsions and death.

Treatment.—An emetic of ground mustard or of white vitriol (*sulphate of zinc*) must be

speedily given, with copious draughts of warm water. This should be followed by an active purgative, and then by vinegar and water. Laudanum may be given if there be indications of spasm, and stimulants may be necessary in some cases.

POISON HEMLOCK.—See Conium.

POISONOUS INSECTS.—Bee, Gnat, Hornet, Scorpion, Wasp, &c.

Symptoms.—In general, the sting of these insects occasions only a slight degree of pain and swelling. But sometimes the symptoms are more violent, and sickness and fever are produced.

Treatment.—Rub hartshorn (ammonia) and sweet oil on the affected part; and a rag moistened in the same, or in salt and water, may be kept upon it till the pain is removed. Moistened clay is an excellent remedy. A few drops of aqua ammonia or hartshorn may be given frequently in a little water, and a glass or two of wine or of weak sling may be taken if the symptoms are severe. The sting may be removed in most cases by making a strong pressure around it with the barrel of a watch key.

POISON IVY.—Poison Oak. (*Rhus toxicodendron*).—Symptoms and treatment like Conium, Conitum, &c.

POISONOUS MUSHROOMS.—Several kinds of mushrooms are poisonous, and have been eaten by mistake.

Symptoms.—Nausea, heat and pain in the stomach and bowels, vomiting and purging, great thirst, small and frequent pulse, stupor, dilated pupil, cold sweat, fainting, convulsions and death.

Treatment.—Clear the stomach and bowels by giving an emetic of ground mustard, or of white vitriol (*sulphate of zinc*) followed by Epsom salts (*sulphate of magnesia*) and large stimulating enemas. After the poison has been thoroughly evacuated, small quantities of brandy and water may be given.

POISONOUS SERPENTS.—Boa, Copperhead, Moccasin, Rattlesnake, Viper, &c.

Symptoms.—A sharp pain is felt in the wounded part, which soon extends over the limb or body; great swelling, at first hard and pale, then red, livid and gangrenous in appearance. Faintings come on, with vomiting, convulsions, and sometimes jaundice. The pulse is small, frequent and irregular, the breathing is difficult, the sight fails, the intellectual faculties are deranged, cold sweats come on, and inflammation, suppuration, and sometimes extensive gangrene takes place.

Treatment.—Apply a tight ligature between the wound and the heart; draw all the blood possible, by means of a cupping glass, then apply a hot iron, and afterwards cover the wound with lint, dipped in equal parts of sweet oil and hartshorn. Warm drinks and small doses of ammonia, to cause perspiration, may be given.

POISON SUMAC.—Dogwood, (erroneously

so called)—*Rhus venenata*. For symptoms and treatment see Poison Ivy.

POKE—Scoke, Cokum, Garget-root.—The botanical name of this plant is *Phytolacca decandria*. The root, leaves and berries are poisonous; but the young shoots have been cooked and eaten, like asparagus, and are quite harmless. Symptoms and treatment like Blue Flag, Colocynth, &c.

POTASH—*Potassa*.—Carbonate of Potash. Pearl Ash, Saleratus, Strong Ley, Nitrate of Potash, Saltpetre, Chromate of Potash. With the exception of the Chromate and Bichromate, the symptoms and treatment are like Ammonia. For those of the Chromate and Bichromate, see Chrome.

PRUSSIC ACID.—Hydrocyanic Acid. This exceedingly active poison is found in combination with several metals, in the oil of bitter almonds, in the leaves of the common laurel, and sparingly in the seeds or stones of the peach, cherry, plum, &c.

Symptoms.—When the dose is large, death almost immediately ensues. In smaller quantities, it causes pain in the head, stupor, nausea, giddiness, great debility, a small, vibrating pulse, eructations having the flavor of almonds, spasms, convulsions and death.

Treatment.—Give a solution of saleratus (*bicarbonate of potash*.) or of carbonate of ammonia, and then administer a weak solution of copperas (*sulphate of iron*.) The cold douche, or an effusion of cold water upon the head and spine, have been recommended.

RED PRECIPITATE.—See Mercury.

RHUS TOXICODENDRON.—See Poison Ivy.

RUM.—See Alcohol.

SCHIELE'S GREEN.—See Arsenic.

SILVER—Nitrate of Silver, Lunar Caustic.

Symptoms.—Headache, vomiting, pain in the bowels, diarrhœa, palsy, convulsions and death.

Treatment.—Give a strong solution of common salt, (*chloride of sodium*.) and follow with mucilaginous drinks, such as flaxseed tea, slippery elm, etc.

SMUT OF RYE.—See Ergot.

SODA.—Sal Soda, Carbonate of Soda, &c. Symptoms and treatment like Ammonia and Potash.

STRAMONITUM.—Thorn Apple, Jameson weed, Stinkweed, &c. Symptoms and treatment like Aconite, Conium, &c.

STRYCHNIA.—Strychnine. See Nux Vomica.

SULPHURIC ACID.—Oil of Vitriol. Symptoms and treatment like Muriac Acid, Nitric Acid, etc.

TARTAR EMEIC.—See Antimony.

TARTARIC ACID.—See Acetic Acid.

THORN APPLE.—See Stramonium.

TOBACCO.—(*Nicotina Tabacum*.) Symptoms and treatment like Aconite and other narcotics.

TIN.—Chloride of Tin, Oxide of Tin, So-

lution of Tin. Symptoms and treatment like Arsenic, Copper, &c.

VERATRUM.—*Veratrum album* or White Hellebore. *Veratrum viride* or Green Hellebore. Symptoms and treatment like Aconite.

VERDIGRIS.—See Copper.

VERMILLION.—See Mercury.

VINEGAR.—See Acetic Acid.

WHISKEY.—See Alcohol.

ZINC.—Sulphate of Zinc or White Vitriol. Symptoms and treatment like Arsenic, Copper, &c.

BEST MILK-PRODUCING FOOD.

Our correspondent T. L. Hart, of West Cornwall, Conn., has written an article for the *Germantown Telegraph* from which we make the following extract:—

There is no doubt a difference in the quality of milk in different cows, some being rich in caseine or cheese, and that of others in butter, yet as a rule the milk will be in a great measure what it is made by the feed of the cow. The milk from the same cows may be varied by feed from eighty, by the lactometer, up to a hundred and fifteen degrees, the highest number being the best, and such as is produced by the heaviest feed.

In a carefully-tried experiment which I made last winter I found that heavy feed, such as corn, wheat and rye shorts, fed to twelve cows, pound for pound, did not make as much milk as wheat-bran, into nine quarts a day, and I have no doubt that for a time this would invariably be the result, yet I should not dare to continue for any considerable length of time to feed my cows upon wheat-bran, alone, as it would undoubtedly diminish the strength of the cow and soon reduce her to a condition that she would be incapable of giving very much milk. I am now feeding to twelve cows two bushels of wheat-bran mixed with one bushel of corn-meal ground in the cob, with very satisfactory results. The milk is good, the strength of the animal is kept up, and a diminished amount of hay will keep the cow in good thriving condition. I feed twice a day.

It is yet an open question whether the feed should be fed dry or wet. There is no doubt but that in cold weather it would be much better if the water, which is required by cows in milk, could be warmed. It taken into the system while at a very low temperature the process of digestion will be retarded until the temperature of the water is raised to blood-heat. In warming this water digestion is not only retarded, but there will be a loss of a certain amount of food, which, like fuel, is consumed in keeping up the heat of the body; and this accounts for the fact that a herd of cattle require very much more food in extremely cold weather than they do in warm weather. It will be evident, therefore, that

a large amount of food may be saved by warm stabling in cold weather and consequently a much greater secretion of milk secured.

The great mass of the community are no doubt ignorant in regard to the great difference in the quality of milk made by the different kinds of feed. Milk made from a cow fed upon turnips and buckwheat-bran or buckwheat-shorts, is totally unfit for a young child, or its mother, and there is no doubt but that the mortality among children is often caused by improper food of which the milk is made. The physician knows the importance of having the milk from a new milch cow assigned for a young child; the why and wherefore very likely he does not know. He probably does not know that the milk from a farrow cow is one-third heavier and one-third richer in casein than that from a new milch cow, and therefore is not as well adapted to the wants of the child, nor does the mother understand that the cause of the child's illness is owing to some improper food eaten by the cow. If I were desirous of making a given amount of milk the best adapted to the use of the greatest number of children, I would feed the cows on equal parts (in pounds) of oats wheat-bran and Indian corn and the best of hay and apples.

Until we become accustomed to trying experiments, we shall not know for a certainty the quantity and quality of food that will, when fed to a lot of cows, produce the greatest amount of really good milk for a given amount of feed, nor shall we know whether the cutting of hay for our milch cows in winter will pay for the extra expense and labor of doing it. Some of our milkmen who have tried cutting are of the opinion that it pays well for the trouble and some contemplate steaming.

Roots, especially carrots, increase the flow of milk and of the best quality, and will tend to keep the cow in good health. Apples will increase the quantity of milk nearly as much as turnips, and of much better quality.

In making milk there is nothing more important than good early-cut hay. Without this it may be doubted whether milk can be made with profit.

SOMETHING ABOUT MUCK.

Several correspondents having lately revived, through our columns, the by no means new question as to the value of muck, we present for their consideration a word or two upon the same subject.

Experiments in the analysis and practical use of muck are of such number and the results have been of such a nature as to prove that it should never be used in its crude state, or on being immediately thrown up from its bed. The time it should be allowed to decompose depends to a considerable extent upon the character of the deposit. If it has

been lying in stagnant water, or if water has been soaking through it—in which latter case it will be found of but little value for fertilizing purposes—it should remain exposed to the action of air, rain and frosts for at least a twelvemonth. If, on the other hand, it comes from a dry situation it may be used as an absorbent after having remained exposed for but three or four months. Without this *seasoning* muck is of very little value.

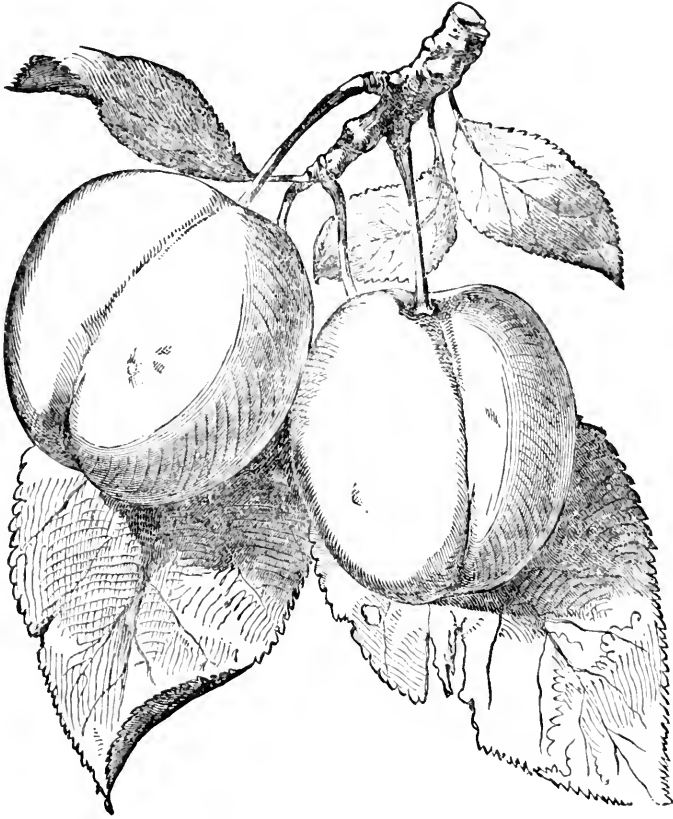
It is as an absorbent that we place the greatest value upon muck. When thoroughly dried it is not only a complete absorber, but it is also a most perfect deodorizing agent; so that by its use in the cow stable the most valuable part of the voidings of a stock of cattle, and that usually suffered to go to waste, the liquid portion, is not only saved, but absolute cleanliness, and therefore healthfulness, is secured. But when saturated, the muck should not be left where it will wash, as in a short time it would become almost valueless, by the loss of that which it contained through absorption. It must remain in some covered situation until hauled upon the land.

Again, muck forms a most useful ingredient in the compost heap. Used for this purpose, in connection with stable manure, lime, ashes, salt, &c., it becomes a valuable dressing, aside from greatly augmenting the quantity of the farm fertilizers. For many uses, especially for corn, garden crops, and as a top dressing for grass lands, it is regarded by all who have ever used it as better than pure dung; especially if applied on light open soil, liable to suffer from drought.

The question is often asked by farmers if muck used alone is of itself any advantage to the land. This question can be quite accurately answered by saying that generally it is not. Its value in this respect results from its mechanical action. On sandy, porous soils, such as are liable to leach, and to readily feel the effect of drought, an application of muck would give—in consequence of its quality of attracting and retaining moisture—greater consistency to the soil; and upon clayey soils it would also serve to render them less stiff and rigid and more susceptible of cultivation.

In some of his forcible and conclusive sentences, Liebig has shown how peat or muck, consisting for the most part of inert vegetable matter, and which has ceased to undergo further voluntary decomposition, often contains substances highly injurious to vegetation, such as sulphate of iron, free phosphoric and sulphuric acids; but that these are capable of being neutralized and turned to plant food by the action of lime. This should direct all farmers in the use they make of muck as a fertilizer.—*Maine Farmer.*

—Indiana proposes to consolidate its present State University, Agricultural College and other State educational institutions into one great University, to be located at Indianapolis.



THE PENOBSCOT PLUM.

This fruit originated in the garden of James McLaughlin of Bangor, Me., and was introduced by B. F. Nourse and Henry Little of Bangor. The illustration was drawn from fruit raised by Mr. Henry Vandine of Cambridgeport, Mass.

The tree is a very thrifty grower, bears young, and the specimens we have seen of it have been unusually free from wart or blight of any kind. Fruit large, about the size of the Jefferson; oblong, marked with a deep suture; stem an inch in length, slender, and set in a small cavity; skin, orange yellow, smooth and fair, with no blush. Mr. Vandine represents it as among the best, and well worthy of cultivation.

—The *Laconia Democrat* says that the ravages of the new cabbage worm were stopped the past season in one place by a liberal coating of fine salt on the cabbages one morning while the dew was on.

COLOR IN AUTUMNAL FOLIAGE.

Mr. I. Wharton, in the *American Journal of Science* observes:—If chlorophyl, the green coloring matter of leaves, should be like many other greens, a compound color, it must have for one of its elements, a vegetable blue, capable of being reddened by acids.

If the juices of leaves kept in a neutral condition by vital force, or by alkaline matter brought in the sap from the earth, should, when circulation ceases, become acidified by the atmospheric oxygen, those juices would then be capable of reddening the vegetable blue of the chlorophyl.

If, however, that vegetable blue should be thus reddened, it ought to become blue again when exposed to an alkali; or in other words, if green leaves should be reddened in the autumn in the manner here suggested, by the action of the oxydizing atmosphere, they ought

to return from red to green, if immersed in an alkaline atmosphere.

He exposed under a glass receiver, in the light, with a capsule containing ammonia, a variety of autumnal red leaves, and had the gratification to perceive that in most cases, the green color was restored, the restored green color remaining from some minutes to hours.

Frost probably plays no other part in causing the autumnal tints, than merely to arrest the circulation, by killing the leaves. When a sharp frost occurs early in the fall, while the pulp of the leaves is still full and plump, the red colors come out brilliantly, because there is plenty of the blue substance to be acted upon by the juices then also abundant. When, on the other hand, the leaves die slowly, and are at the same time slowly dried in a late and dry autumn, the pulp becomes so meagre and the cuticle of the leaf so dry and hard, that an abundant production of fine red tints is impossible, and brown, the color of decay, predominates.

PLANTING TREES ALONG THE HIGHWAYS.

Persons who have travelled through the interior of New England, cannot have failed to notice the great extent of road-side without trees. Sometimes for miles together, along the sides of extensive pastures and sprout-lands, the roadside is barren, or covered with an unsightly and unprofitable growth of alders and other wild shrubs, or, what is worse, burdocks, thistles or milk-weeds.

This ought not to be. If these spaces were set with the sugar maple, and well cared for, in the course of years they would well nigh supply the whole population with all the sugar it would wish to consume, if added to what is already produced in sugar orchards. When the trees become past producing the sugar making fluid, they would form an immense amount of valuable timber for mechanical purposes, and the refuse portions make the most valuable fuel.

But these are not all the good offices which they would perform. Numerous tracts of New England lands suffer for lack of moisture, which would be greatly benefited by trees as condensers of vapor, and thus enable such soils to produce remunerative crops. The health which such trees would tend to promote, and the charming beauty they would

impart to the landscape, ought in themselves to be a sufficient motive to set us at work to plant them.

In 1869, the Legislature of New York passed an act in relation to planting trees alongside of the public highways, and last winter, we think it was, they amended that act to read as follows, and it is now in force:—

"Any inhabitant liable to highway tax who shall transplant by the side of the public highway any forest shade trees or fruit trees, of suitable size, shall be allowed by the overseers of highways in abatement of his highway tax, one dollar for every four trees set out; but no row of elms shall be placed nearer than seventy feet; no row of maples or other forest trees nearer than fifty feet, except locust, which may be set thirty feet apart; fruit trees must be set at least fifty feet apart, and no allowance, as before mentioned, shall be made, unless such trees shall have been set out the year previous to the demand for said abatement of tax, and living and well protected from animals at the time of such demand."

We hope that the Legislature of Massachusetts, at its next session, will adopt the foregoing law, or one similar in effect, and that all land owners where road sides are barren of trees, will avail themselves of its privileges at once.

FARMERS' CLUBS AND TOWN MEETINGS.

History informs us that when Charles II. granted the province of Carolina, in 1663, to eight distinguished noblemen of his realm, the celebrated John Locke, at their request, drafted an elaborate code for the government of the colony, in which he endeavored to avoid all the errors and to combine all the excellencies of existing and past systems of government. But however beautiful in theory the scheme of the great philosopher might have been on paper, it was found to be utterly impracticable and useless in the wilderness; and all attempts to put it into practical operation were soon abandoned, and the people proceeded to adopt in its stead such simple rules and regulations as were necessary to govern their intercourse with each other and with the wild men and wilder beasts by whom they were surrounded.

While the plan of government that was devised by this great English philosopher to serve as a model for the new world, and to shape the legislation of a continent, is remembered only as a failure, the deliberations of little collections of unlettered pioneers became the model of State and national governments.

May we not hope that what the town meeting has done for the government of the country, the farmers' club may yet accomplish for the advancement of agriculture? Like John Locke's constitution, the present organization of Agricultural Boards and Societies fails to secure the hearty sympathy and co-operation of those for whom it was

devised. Whatever difference of opinion there may be as to the cause of this want of co-operation between agricultural associations and practical farmers, all will agree that it is very desirable that greater unity of action should be secured; that practical farmers should participate more freely in the management, and take a more active part in the proceedings of agricultural societies. Among other means for the accomplishment of these objects, we have looked to the formation of Farmers' Clubs and Town Shows as the most hopeful; as a beginning at the right place,—among the farmers themselves.

The farmers of Maine appear to be taking the lead of those in the other New England States in the organization of Farmers' Clubs, and we print in another column an article by one who has had much experience in their management and operation there, and most heartily commend his suggestions to the consideration of our readers.

CATTLE DYING IN CORN FIELDS.—During the past dry season many cattle have died after being turned into fields of corn stalks. Some have supposed that death was caused by eating the smutty ears which were rejected by the harvesters. Mr. Elmer Baldwin, who has several times witnessed post mortem examinations of animals that have thus died thinks the idea of smut being fatal is erroneous, and says, in the *Prairie Farmer*:—

The common practice is to keep cattle on the short fall feed, or with light feeding, till the corn-field is cleared, when they are turned in with empty stomachs and ravenous appetites; there is generally a scarcity of water, and the fatal results follow. The cause, evidently, is too rapacious and full feeding of the *dry material*, without sufficient water.

In all the cases he had examined, the second stomach, commonly called the "manifold," was packed with the masticated corn husks, so dry and hard that the point of a common butcher's knife would only, with considerable effort, he made to penetrate its substance, while the coats of the stomach were disorganized and separated, showing that a violent and fatal inflammation had supervened.

With plenty of salt and access to running water at least twice a day, he thinks there is no danger from turning cattle into stalk fields.

THE FOOT AND MOUTH DISEASE.—We hear of the appearance of this disease in various parts of Massachusetts, but have no intelligence of any action by the committee of which Dr. Loring is chairman, appointed by the Board of Agriculture to confer with the authorities of the State in relation to the adoption of measures to prevent the spread of the disease. Mr. A. Scott, of North Blackstone, says in the *Patriot*, there are cases which cannot be accounted for otherwise than by supposing that it was propagated by contagion through the air. In an article in the *Maine Farmer* by S. L. Goodale, Esq., fumigation of the stable by burning bits of brimstone on live coals in a suitable vessel, is recommended as a preventive. Care and

judgment, however, must be exercised in its use. An ounce or two is enough to burn at once for a barn of from six to twelve or twenty cattle, and the operation should be repeated regularly twice a day. The fumes should pervade all parts of the room equally, and not be stronger than the attendant can bear with moderate discomfort.

For the New England Farmer.

WINDOW GARDENING.

In reply to the inquiries of Etta Parker in last week's *FARMER* we would say that we think a garden might flourish finely on a light-stand. Sides of thin wood, such as cheese boxes are made of, could be nailed around it, fastening them securely at the corners with brads; and lining the inside with zinc, either up to the top edge, or nailing it one inch below it; or a tin pan might be made to fit closely in, which would be more easily procured. This lining is required, else the water would leak out, and the wood warp or swell.

To prepare the soil, scatter small bits of charcoal over the pan, with a good sprinkling of the dust; this will act both as a purifier and a fertilizer, and prevent all mouldiness or decay. Upon this foundation spread a thin coat of perfectly decayed stable manure, and over that place rich loam, with a goodly mixture of sand—at least one-quarter—silver sand, such as is used for scouring, will answer the purpose.

To ornament the exterior of the box, sections of pine cones can be nailed on with small brads, and varnished with carriage varnish; or coffee berries and pumpkin seeds can be made into flowers, or glued on in fanciful shapes, with rice seeds intermingled; then varnish the whole. Split rattans could be nailed on in mosaic work, or split sticks of maple, oak, birch, &c., can be used and arranged in ovals, crosses or squares. Miss Etta can exercise her own ingenuity in its adornment. It would be a great advantage to be able to move it about, as the chief objection to "*window boxes*" is in their being stationary, the plants are likely to grow one sided, and present a finer appearance to the passer-by than to their owner, as she sits beside them.

Vines are great additions to the "*boxes*," and they could be trailed about the stand with very good effect.

We saw in Cleveland, Ohio, several years since, an exquisite floral design. It belonged to the matron of a Children's Asylum, and was her own work. It was a stand constructed out of the gnarled roots of trees, bushes, and grape vine branches. A tripod formed the standard; upon that, crooked branches held up an oval tin pan which was firmly nailed to them. This was painted green, and filled with earth. Vines of *Moneywort*, *Tradescantia*, *Maurandia* and *German Ivy* trailed all about it. *Lycopodium* was mingled with them. A winter flowering Fuchsia, "*Speci-*

osa"—was in the centre, and was filled with its waxen pink and crimson bells. A *white Geranium* was on one side, and a bright pink of the same species, flanked the other. A white *Eupatorium* and scarlet *Bouvardia* completed the loveliest stand we ever saw. Any ingenious boy, or even a girl who liked to use hammer and nails, could construct a similar one. A wooden circle could be substituted for the tin pan, and gnarled roots and branches would ornament prettily.

We hope Miss Etta will try her hand at its manufacture, and inform the readers of the FARMER of her success. S. O. J.

For the New England Farmer.

COLORING BUTTER.

USE OF SALTPETRE.—WASHING BUTTER.

"A Subscriber" at Harmony, R. I., desires information on this point. As we are coloring butter weekly, with a new preparation, called Annotto, we obtained from Whitman & Buzzell, of Little Falls, N. Y., who are the agents for its sale, we can tell of its desirability. N. A. Willard, the great authority on dairy matters, recommended it to us and procured it from the above-mentioned firm. It is much used in New York and Pennsylvania by dairy-men of the highest stamp. The famous butter of Philadelphia is all colored with it.

Annotto-ine is produced from the seed of a plant grown in Brazil. The process is to wash the coloring from the surface of the seeds, by letting them soak for some time in cold water. When this is done, the water is drawn off and the Annotto-ine is dried and then pulverized. The old process was to boil the seeds, but this dissolved the entire seed, which was not desirable, and did not produce so pure an article for coloring butter. The Annotto-ine is sold at \$2 per pound. One pound of pure potash, of full strength, and half a pound of sal soda are mixed with it, according to directions furnished by the agents, who will also furnish the potash at twenty-five cents per pound, and the sal soda for six cents per pound, and with cold water, four gallons of Annotto-ine can be prepared. This should be bottled and corked tightly, and kept in a dry place.

When the cream is ready for the churn, pour in one large tablespoonful of it to every six quarts of cream. This amount will give a fine golden hue and a good flavor; it *certainly* does not detract from the sweetness of the butter. We have used it for six weeks, and are much pleased with it, having always had a decided dislike to tallowy butter for table use. All who see our butter exclaim, "where did you get your butter? It exactly simulates the color of June butter."

O. S. Bliss, Secretary of the Vermont Dairyman's Association, in an essay delivered at Montpelier, March 5, 1870, says of Annotto:

"It is a purely vegetable extract, and the Brazilians, who manufacture it, make use of it to tint

very many of the most delicate and luxurious dishes served at their repasts. We have a friend who has traveled in South America, and he speaks of it as analogous to our butter in some respects; one of which is that the really pure article is of a comparatively imperishable or self-preserving nature, and that it imparts to milk, butter and cheese, in some degree this preservative principle."

He also says in the same essay:—

"Many persons affect to be very averse to the use of colored butter, but we have never seen one yet who does not like good, rich-looking, yellow butter better than a poor, lardy, white article, and would not eat a nicely colored article much more satisfactorily than the other, provided, of course, that he does not know that it is colored; and the smartest of the class are unable to distinguish the colored from natural butter of the same shade of color."

To all of which we say amen. Mr. Bliss has taken some exceptions to our style of butter-making, but we fully agree on the subject of "coloring" it. As to the saltpetre, to which he alludes in your paper of Nov. 19, the practice of twenty years has confirmed us in the belief of its non-injurious properties in *infinitesimal* doses. It prevents all cheesy and bitter taste in the butter, so prevalent at this season in small dairies, and so disgusting.

A prominent farmer in Grafton County went to Boston some years since with his butter. The market price was fifty cents—he could get but thirty-five. With praiseworthy curiosity, he insisted upon knowing why his butter could not command the same price in market, and what his wife should do the next season to make it saleable? He was answered that the best of butter was cured with salt, *saltpetre* and sugar—so much to a pound; that the two latter ingredients were as preservative as salt, and if combined with it, would produce an A No. 1 article. He profited by the advice, and has ever since received the highest price for the product of his dairy.

As to washing butter, we must agree to disagree with Mr. Bliss, but should like to place some of our unwashed Alderney butter, made in September, beside of his washed butter, in the spring, and see if he could not discern a "difference in the sweetness." He also takes exceptions to the amount of butter made by "Mrs. A.'s cows."

We know of several Alderney cows which averaged fourteen pounds of butter per week, all the summer months. A four-year-old made from eleven to thirteen pounds last summer, for many weeks. We are strangers to Mr. Bliss, though well known to his friend, N. A. Willard; but we venture to assert that should we meet we should enjoy a friendly chat on butter and its manufacture, even though we might differ on some points. S. O. J.

Jan. 2, 1870.

—Thomas J. Field, of Northfield, Mass., has sold six head of Short-horns to the Agricultural College, and two to Mr. Ellison, of Leesburg, Va.

A WINTER POEM.

BY J. G. WHITTIER.

A sound as if from balls of silver,
Or elfin cymbals smitten clear,
Through the frost-pictured panes I hear.

A brightness which outshines the morning,
A splendor brooking no delay
Beckons and tempts my feet away.

I leave the trodden village highway,
For virgin snow-paths glimmering through
A jewelled elm-tree avenue;

Where, keen against the walls of sapphire,
The gleaming tree-bolls, ice-embossed,
Hold up their chandeliers of frost.

I tread in Orient halls enchanted,
I dream the Saga's dream of caves
Gem-lit beneath the North Sea waves!

I walk the land of Eldorado,
I touch its mimic garden bowers,
Its silver leaves and diamond flowers!

The flora of the mystic wine-world
Around me lifts on crystal stems
The petals of its clustered gems!

What miracle of weird transforming
In this wild work of frost and light,
This glimpse of glory infinite!

This fore gleam of the Holy City,
Like that to him of Patmos given,
The white bride coming down from heaven!

How flash the ranked and mail-clad alders,
Through what sharp-glancing spears of reeds
The brook its muffled water leads!

Yon maple, like the bush of Horeb,
Burns unconsumed; a white, cold fire
Rays out from every grassy spire.

Each slender rush and spike of mullein,
Low land shrub and drooping fern,
Transfigured, blaze where'er I turn.

How yonder Ethiopian hemlock
Crowned with his glistening circlet stands!
What jewels light his swarthy hands!

Here, where the forest opens southward,
Between its hospitable pines,
As through a door, the warm sun shines.

The jewels loosen on the branches,
And lightly as the soft winds blow,
Fall, tinkling, on the ice below.

And through the clashing of their cymbals,
I hear the old familiar fall
Of water down a rocky wall.

Where from its wintry prison breaking,
In dark and silence hidden long,
The brook repeats his Summer song.

One instant flashing in the sunshine,
Keen as a sabre from its sheath,
Then lost again the ice beneath.

I hear the rabbit lightly leaping,
The foolish screaming of the jay,
The chopper's axe-stroke far away;

The clamor of some neighboring barn-yard,
The lazy cock's belated crow,
Or cattle-tramp in crispy snow.

And as in some enchanted forest
The lost knight hears his comrades sing,
And near at hand, their bridles ring.

So welcome I these sounds and voices,
These airs from far-off Summer blown—
This life that leaves me not alone.

For the white glory overawes me;
The crystal terror of the eeer
Of Chebar's vision blinds me

Rebuke me not, O sapphire heaven!
Thou stainless earth lay not on me
This keen reproach of purity!

Let the strange frost-work sink and crumble,
And let the loosened tree boughs swing,
Till all their bells of silver ring.

Shine warily down, thou sun of noontide,
On this chill pageant, melt and move,
The Winter's frozen heart with love.

And soft and low, thou wind south-blowing,
Breathe through a veil of tenderest haze
The prophecy of Summer days.

Come with the green relief of promise,
And to this dead, cold splendor bring
The living jewels of the Spring!

FARMERS' CLUBS.

The long evenings are now at hand, and the farmer, finding a little leisure after the labors of the day, looks about him for some means of pleasure and amusement wherewith to occupy the time. He will find no more profitable way to spend an occasional evening than in the meetings of a wide-awake Farmers' Club. Better by far is it than to doze the time away, smoking a pipe in the chimney corner, or lounging at the country store. The book and the paper fire after a while; these organizations come in to occupy a portion of time in just such a way as the hard-working farmer needs. Here he can in a measure obtain that

Mental Culture

Which is so much neglected by those who labor day after day upon their farms. It is very natural for them to slide into almost entire neglect of any intellectual effort, and unless they have something of a character in which they are particularly interested, and which pertains to the business in which they are daily engaged, any effort in that direction soon becomes laborious, and finally is discontinued altogether. All the time, they are inclined too much to physical exercise, while they neglect the exercise of the mind. Even at many of our County Fairs, the annual address, which once afforded a little mental stimulus, has been discontinued, and the time is occupied in a manner which does not, to say the least, draw out any mental effort.

Again, much of the farmer's time is spent alone, or in company with hired help not in any way remarkable for their intelligence, and the mind runs along in the old grooves with but little to excite it to activity. It becomes sluggish. Mind needs contact with mind to rub it into activity. The more we associate with other individuals, the more the mind is aroused; we think, we study. These Farmers' Clubs then, are just what is needed to draw the farmers together, and to give them an opportunity to bring their minds in contact. The exercises are such as pertain to their

every day affairs, and therefore such as they are more or less familiar with. While exercising the mind, they are reaping other advantages as well.

Practical Knowledge

Is acquired. However humble the individuals composing the Club, however ignorant in "book learning," however rough their exterior, if they are practical farmers each one knows something which will be an advantage to the others. Some rough and otherwise ignorant men are critical observers, and are possessed of a fund of practical knowledge, which, if it can be drawn out, will be of interest to all. All farmers need a share in their knowledge, but it is very difficult to obtain. They are not public talkers, and any effort made under the formalities of a public meeting would quite surely result in a failure. I have seen such men at farmers' conventions, after the meeting was dissolved, gather together in knots and talk over the subject under discussion in a manner which would have done honor to the lecturer himself. A Farmers' Club is the very best place to draw out the knowledge of such men, and at the same time it is a good place to draw out the knowledge of those who are accustomed to public speaking.

Associated Effort.

Another advantage of these organizations is in associated effort. This advantage will manifest itself in many ways. Great good will come from association alone without combining in any effort. When men come together and compare notes, as the saying is, when they talk over the work in which at the time they are engaged, when they compare the different crops raised with the yield of their neighbors, they are spurred up to effort and are led to inquiry. These comparisons, this inquiry, lead to thought, and through that to better cultivation and better crops. They will be encouraged in trying new experiments. They can also associate in procuring new and costly kinds of seeds, and in trying new implements to prove their value. In many cases the members of a Club have combined in purchasing thoroughbred animals for the improvement of their flocks and herds. Such efforts cannot be too highly commended. In one instance the results were so satisfactory, and the interest awakened was so great, that it resulted in one of the members purchasing the entire herd of one of the most celebrated Short-horn breeders in New England. When such results are being realized from these organizations, who will dare measure the influence they are destined to exert if properly conducted and earnestly supported?

Social Interchange.

Farmers necessarily live at considerable distances from each other, and in consequence of this and their habits of steady labor, confine

themselves too much to their own fields and firesides. They and their families need recreation, need pleasures, need something to counteract the effect of the constant labor in which they are engaged. The mechanic in the village or city has his mind frequently drawn away from his work by that which is going on around him, but the farmer, being differently situated, finds nothing to break up the monotony unless he seeks for it elsewhere. It is quite probable that more work would be accomplished and a better tone of feeling be experienced, to say nothing of the more cheerful countenance which would be worn, if a half day each week were given to social intercourse with fellow farmers, instead of devoting six full days each week to unremitting labor. After a day spent pleasantly away from home, the labor is not so irksome—the laborer is happier. Allowing as much was not accomplished by giving a little time to relaxation, it should be borne in mind that food and raiment for the family, forage for the stock, and money for the bank, are not the only things worth striving for. We need happiness as well. But if a portion of this time be given to a wide awake farmers' club, ideas will be gained, practical knowledge acquired, which in time will bring about results far in excess of those which will be realized by the farmer who does not improve these opportunities.

The Exercises of the Club

Should be varied to suit the tastes of different members. Discussions upon familiar farm topics should generally be held each evening, and every member should take part in them. Do not depend upon professional talkers, who may know little of the subject about which they are talking, but give your own experience and your opinions drawn therefrom, as you would talk them to a neighbor sitting by your own fireside. Practical knowledge will thus be imparted, which all should seek for. Essays upon the subjects which are to be considered, may be prepared and read by those who have a taste for putting their thoughts in writing. It is a good practice to assign topics six months or a year before hand, so that those who are to prepare essays may have ample time to "read up" their subject, or to experiment upon it on their farms. In this way almost every member can, if he will, prepare a valuable paper. To fill up any spare time, extracts from books or papers, which are not accessible to all, may be read, and the ideas or recommendations discussed.—Z. A. GILBERT, *Androscooggin Co., Me., in Country Gentleman.*

—Moisture sometimes generates in a bee hive in winter, and runs down the sides to the entrance, where, coming in contact with cold air, it is frozen, filling up the space, and stopping ventilation. This matter should be looked to occasionally.

SPECIALTIES IN FARMING.

The business of agriculture should be an industry and not a speculation. The insane pursuit of specialties has long been a curse to American agriculture. A whole community runs wild upon hops, when selling at 50 cents per pound, and in two years they are scarcely worth the price of picking, and extravagance begotten of high expectations is forthwith followed by bankruptcy. Wheat brings \$2 per bushel, and whole States become wheat fields, while every other interest languishes, until the bread crop becomes so abundant as to be fed to swine in preference to shipment for human food. The sheep, with wool at \$1 per pound, holds high place in popular esteem, but is kicked from the pasture by every Randolph of the farm at the first indication of a heavy decline in the value of its fleece. In your section cotton, a great boon to your agriculture as a constituent in your aggregate of production, may become an unmitigated evil if left to usurp the place of all other crops. The crop of last year produced \$100,000,000, more than 50 per cent larger than ten years ago. Three millions of bales may command a profit of \$40 per bale, while 5,000,000 may not bring a dollar above their cost. But present profit is not the main consideration. The increase in value and enlargement of the productive capacity of the soil, by a judicious rotation, including the restorative influences of green cropping and cattle feeding, is an increase of capital, a source of large annual income, and an addition to the inheritance of one's children. It not only insures a profit from cotton culture, but enables the planter to pocket the entire proceeds of its sale, other products feeding man and beast.—*Hon. H. Capron, at Georgia Fair.*

DOMESTIC HABITS.

It has been truly said that many a man has owed his success or failure in business as much to the management of his wife, as to his own individual action. Although domestic occupations do not hold the high rank to which they are justly entitled, yet there is reason to believe that the sentiment which has so long prevailed is undergoing a radical change, and that females see more and more the necessity of possessing the ability to overlook and systematically direct the expenditure of that part of their husband's income which comes more directly under their immediate inspection: and truly we should consider them the more praiseworthy and deserving our esteem, whatever their circumstances in life, who best perform the duties which their situation requires. We believe that at the present time the instances are more common than at any time since the early settlement of our country where ladies in the higher classes of society consider it no disparagement to be familiarly

acquainted with all the internal concerns of their families. Yet to the shame of many mothers be it said, that they suffer their daughters to grow up without any practical knowledge of housekeeping, and utterly unprepared to fill any situation in life with usefulness and dignity. They are all instructed in music and drawing, and all the ornamental, but not in the useful arts of life; and the result will continue to be as ever it has been in such cases where there is no security for the possession of wealth, that many a woman reared in luxury will by some reverse of fortune be compelled to exchange her home of ease and luxury for one of privation and care, and compelled to perform the lowest drudgery in order to obtain a small pittance with which to eke out a miserable existence.

AGRICULTURAL ITEMS.

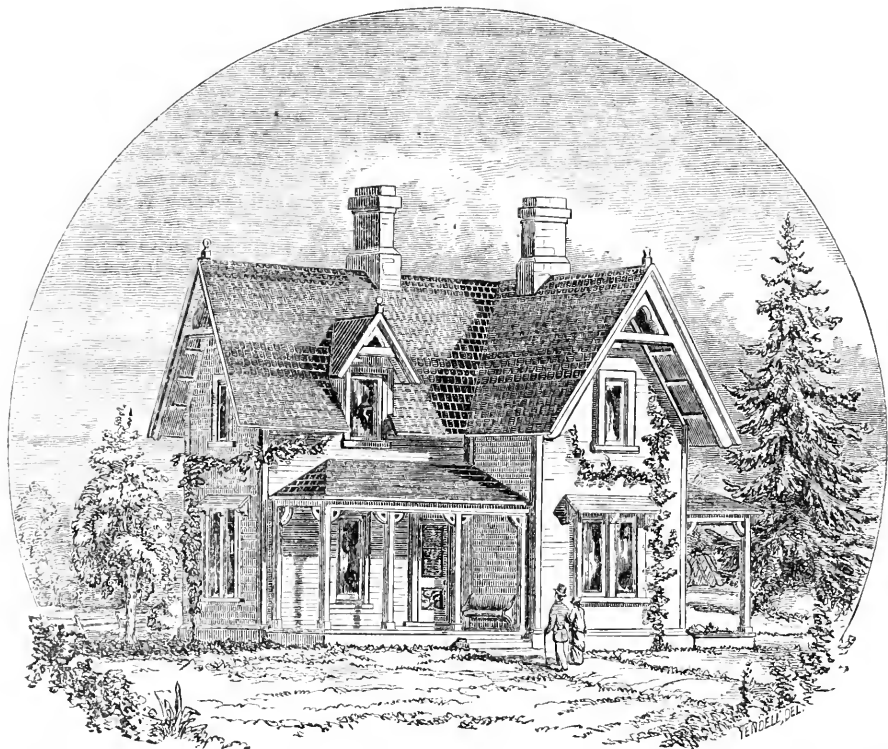
—The *Michigan Farmer* says, we know of an English gardener who would never allow any rubbish to be burnt, but had it thrown into heaps to rot. It is astonishing, if left to time, how quickly that agent will perform the work of decaying trash.

—It is said that California, that land of wonders, is peculiarly adapted to the cultivation of cotton, that the soil and climate are remarkably suited to it, that the country is free from the chief difficulties and embarrassments that often make it a failure elsewhere; the season is uniform, and there are no worms, no inopportune rains, and no early frosts.

—The Kansas Agricultural College is now fairly under way, with thirty-four under graduates and 138 in the scientific and preparatory departments. Its endowment comes from the 90,000 acres of land located under the Congressional act of July, 1862. About one-half of this land has already been sold, creating a fund of nearly \$180,000, which will this year yield an income of \$16,000.

—For the improvement of pastures the *Ohio Farmer* recommends that they be divided, one-half stocked with sheep, and the other half with cows, and alternate changes made every spring; or by an entire change from cows to sheep and from sheep to cows every few years, always retaining a cow or two for family use. The two, however, never to run together.

—The *Michigan Farmer* says, if you build a square crib of poles notched, log-house fashion, say eight feet square, or larger or smaller, as you like it, and throw into it all sorts of trash—a little muck, leaves, bits of everything from the house, the sweepings, &c., and have it so that the kitchen slops and soap suds may be conveyed upon it by a wooden conductor, which a boy may make, you will, in the course of a year, have accumulated some ten dollars worth of manure—perhaps more—and have things tidier about the house and yard, and will continue the practice for profit and comfort.



[Entered according to Act of Congress, in the year 1870, by R. P. EATON & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

RURAL ARCHITECTURE.

BY GEO. E. HARNEY, Cold Spring, N. Y.

DESIGNED AND ENGRAVED EXPRESSLY FOR THE NEW ENGLAND FARMER.

No. 6.—A DOUBLE OR SINGLE HOUSE.

In continuation of our new series of plans for moderate priced houses, suited either for suburban or country residences, we present the above design. Our readers can but admire the faithfulness with which the engraver has brought out the ideas of the artist, and produced a charming realization of many a one's dream of a cozy little home.

This design represents an economical house for a single family, which, however, may be conveniently arranged for two families. In the design for one family, A is a veranda shielding the entrance. B is the entrance hall

containing the staircase, and C the parlor, fourteen feet by sixteen; D will be the living room also fourteen by sixteen, and E may be used as a kitchen. It communicates with G, a large wood-shed. F is a large store-room opening from the kitchen also. In the second story are three good sized rooms, beside a small room over the store-room.

The house is designed to be built of wood, the frame being of spruce, boarded and clap-boarded, and the roof boarded with hemlock boards and shingled with sawed cedar shingles, a portion of which may have lower edges cut

in the hexagon or octagon pattern. The outside may be painted and sanded. The cost would be about \$2600.

We will soon give the plans by which this

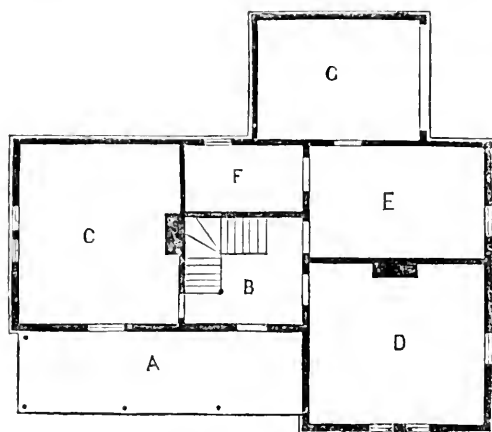
nately made its appearance in this country, and farmers everywhere, more particularly upon the lines of through cattle traffic, should be on their guard, and upon the first indication of disease showing any of its symptoms, immediate information should be given to the proper authorities, that measures may be at once taken to prevent its spread. The disease is highly contagious, not only by contact with diseased animals, but also by contact with the discharges from the sores, and the contagion may be conveyed by the matter adhering to the clothes (especially the shoes) of persons attending diseased animals, and also by the matter in the dung and litter of animals; on which account there is special danger from the manure or dirt thrown out of cattle cars at stations or in motion. The disease is also readily and frequently (perhaps most frequently) communicated by the discharges dropped upon the highways by sick cattle driven over them, and for this reason the first precaution to be taken is to prevent the moving of cattle attacked by the disease. The disease

sometimes affects the udders of cows, and during its course (whether symptoms of its affecting the udder or not appear) the milk should not be used as human food or given to any animals.

The disease is spreading to an alarming extent in some parts of New York and in Connecticut. Over one thousand cases are reported in Dutchess county, and in Queens county on Long Island it has made its appearance among the cows kept for furnishing milk for New York city. We believe, however, by prudent and active measures, it may be controlled, and think no groundless fears should possess the minds of our farmers. We have great faith in the sulphurous fumigation alluded to by Mr. Goodale last week, and we hope our readers will not forget the remedy.—*Maine Farmer.*

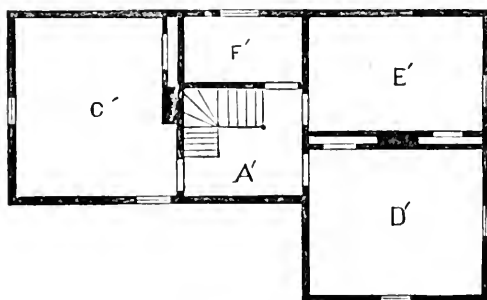
MUSTY OATS.—A South Carolina correspondent, after reporting the loss of a horse, supposed to result from eating musty oats, says:—"I am certain more horses die in the South from eating damaged oats than from all other causes.

As the oats are cut rather green, and often with many green weeds among them, it is very difficult to keep them from molding more or less in the centre. Many animals die from this cause, which are supposed to have had blind staggers, as in the case of mine. Another horse died recently near me in the same way, after being fed on oats mostly sound, but some of the bundles musty in the middle."—*Md. Farmer.*



Plan of First Floor.

house, by a slight variation of the inner partitions, can be made quite convenient for two small families. It will be understood with this, as with all other plans which we publish, that the estimated cost is what would be the expense of building in or near a city, where the builder had every thing to buy and full prices to pay for labor. Where a man can furnish lumber, or other material himself, and is carpenter or mason enough to do a portion of the work with his own hands, the expense will be correspondingly reduced.



Plan of Second Floor.

THE FOOT AND MOUTH DISEASE.

This disease, which, though not generally directly fatal, often produces death by secondary action or its influence on other morbid symptoms, has, during the past year, caused great anxiety and loss of property in Great Britain and on the Continent. It has unfortu-

EXTRACTS AND REPLIES.

A CRIBBING HORSE.

Having a cribbing horse and wishing to gain all the information I can on the cause and cure, if there is any, it would oblige me if you would answer a few questions upon the subject in your *Extracts and Replies*.

A friend told me a few days ago that he met an Agent of the NEW ENGLAND FARMER in Medway, who, upon seeing a horse crib, said that he knew the cause and cure; he said that it was owing to the teeth being too tight, and that the remedy was to take a fine saw and saw between the teeth. What I wish to inquire is, do you think this to be the real cause and cure? I have never heard of this before; is it a new idea or is it an old theory. It is my opinion, founded upon some experience, that it is not caused by the teeth. I think it arises from some hankering in the stomach brought on by some inflammation or disease. L. A. Conn.

Sheldonville, Mass., Dec., 1870.

REMARKS.—We doubt whether any person knows, precisely, what causes horses to indulge in cribbing. Was it ever known in a colt who had run in a pasture in the summer and had the freedom of a yard in the winter? We think not. And if not, then it is natural to suppose that it must be something that relates to the management of the animal in the feeding, working, or some peculiarity in the stall or stable. The largest number of cribbers are found among horses that are not regularly worked; one that is doomed to pass many weary days and weeks of stagnation in the stall. This may be the cause, and probably is, sometimes. Horses in health should never stand a week at a time without exercise. If the owner has no use for the animal, he should give him the run of a small pasture or a large barn-yard, or a drive with some person on his back or attached to a carriage, for the sake of the exercise itself.

If long confined to the stall, and fed liberally, he gets full of energy, and failing to find any other means of working it off, sometimes falls to kicking, knocking the planks of the stalls to pieces, or the boarding flies off in splinters from the side of the barn. Another horse, in his restlessness, will bite at anything he can lay hold of, and finding that he can stretch his muscles a little by holding on with his teeth to the crib, tries it again and again until habit becomes almost immovably fixed. He enjoys it. It affords him exercise and he grunts his approbation of it every time he stretches back with his teeth fast to the crib. A good horse loves action, as much as does an ambitious man. When properly fed, loaded and driven, he finds enjoyment in work, and no creature is more faithful in it. Is it strange that idleness should beget a bad habit in a horse, when we consider who it is that usually employs an idle man!

Idleness with high feeding we should think a sufficient cause of cribbing. Too much sameness in the diet may disarrange the digestion, and lead to a restless habit that induces cribbing. Or, close and tainted air in the stables may lead to it. All these are theories, but we doubt whether a horse

never subjected to any of these things will ever become a "cribber."

Horses occupying stalls near cribbers are quite apt to contract the habit, and, therefore, should not be allowed near them.

The need of salt to horses and swine is too often overlooked. A lump of rock salt where the horse can reach it, when in the stall, may prevent disease, and would frequently be grateful to him.

The process for curing a confirmed cribber is rather a long one, and is the only one which proves successful. It consists in tying the horse in some open place, as the barn floor, where he can not lay hold of anything. Tie him by a halter buckled to a staple over his head, and feed him upon the floor or in a box, and take the box away the moment he has done eating. A six months' treatment of this kind will probably be required before he will forget his old habit.

It is possible, perhaps, that the habit may be broken up in the stall by removing everything the horse can lay hold of. Sometimes, however, the animal does not bite, but presses his teeth against anything he can find, and then stretches and grunts.

WHY FARMS ARE CHEAP IN WESTERN MASSACHUSETTS.

I find a few leisure moments and think I will improve them by giving a few reasons why Massachusetts farms are bought and sold so low. Your correspondent, "W. E. A." asked, are they bonded to railroads? Many of them are. Yes, I may say all are, and many double bonded. I reside some twelve miles from railroad, and the centre of the town is about the same distance from one, making us a border town. I think I may say this town is not bonded to any particular railroad company, and yet I call the town bonded. In Vermont, they have no Hoosac Tunnel, where millions of dollars of public money are being thrown away,—saying nothing of many lives that are being sacrificed. I say thrown away, for this generation will never see the earnings of the road meet one-half the expense, and I fear no generation will see the return of the money expended. These extra and lavish expenditures are calling the money from the farmers of Massachusetts, and making their yokes heavy and their farms burthensome. In no mountain town in New England can you find a more desirable location than in this. We have beautiful scenery, naturally a good soil, pure air, pure water, and pure temperance people generally. Many of the farms are handed down from father to son. But these sons are getting uneasy. And why? They cannot make the farm pay! Heavy railroad taxes, insurance policies, both on life and property, to say nothing of a multitude of book agents, and all the other agents that must be patronized. Who wonders that the cities grow fat, while the ribs of the poor country crop out, and the young farmers offer their farms at low figures. The present prices of farms in this place average only about fifteen dollars per acre.

W. F. JONES.

Worthington, Mass., Dec. 23, 1870.

REMARKS.—At the risk of being considered old-fogyish, we confess that we sympathize with the views of our correspondent. Divide the sum of the public indebtedness of Massachusetts—State, county, town and society, without including our national debt,—among the voters of the State, and

we think the result would show a fearful indebtedness. Taxes have increased rapidly within a few years; but, high as they are, they afford no just measure of our financial extravagance, as they fall far short of meeting our annual expenditures. The annual interest on the town or city debt alone of many municipalities represents a larger sum than was raised on the grand list of those towns or cities not a great many years ago. Little leaks sink great ships, and we believe that premiums on life and property insurance are draining from country towns an amount of money that would surprise us if the sum total could be ascertained. Who will give us the figures?

VINEGAR EELS.

MESSRS. EDITORS:—Some of you did up the explanations on the "hair snake" question, in a late number of the FARMER, rather neatly. But didn't you make one rather broad statement? This:—"These curious worms, like all other animated beings are produced after their kind." Three or four years ago, I took some new cider and put a small quantity into a new pine "keeler" and set it up on a shelf in my kitchen. In the course of a few weeks it had changed to first-rate vinegar, but it was full of little eels. I could see them with the naked eye, and there appeared to be millions of them. They were certainly "animate" beings, but how could they be produced "after their kind?" I certainly know that new cider, white pine, and air, were all the visible materials that entered into their production. I wish you would clear up this mystery as neatly as you did that in relation to the hair snakes, for it has bothered me much.

EDWIN GUILD.

Walpole, N. H., Dec. 17, 1870.

REMARKS.—When one begins with compliments or flattery we generally expect he will end with something a little different, perhaps with a "poser," and we are at once put on our guard. So, taking refuge behind a pile of books we repeat our belief that every "animate being," even the vinegar eel, is produced "after his kind." Of course we shall not here enter into a discussion of the question of spontaneous generation. We prefer for once to dogmatize, and using the language of one of our books, say that this doctrine "has now no place in physiology," as the most learned men rest their belief in the simple truth so early announced, that "every living creature that moveth," is produced "after his kind."

The vinegar in which you found the eels was made of cider. Cider is water in which the vegetable matter of the apple is decaying or undergoing transformations. Now the books say,—we quote from the American Cyclopaedia:—

"If a drop of water in which animal or vegetable matter is decaying, be placed upon the object-holder of a powerful microscope, it will be found to swarm with living beings in active and incessant motion. They vary in size from the one-hundredth of an inch, when they are just within the limits of unassisted vision, to a minuteness which it tasks the power of the glass to detect. These are infusoria; they abound in every ditch, pond, lake, or river; are equally numerous in salt as in fresh water; have been found in hot springs, and in the melted snow of the Alps; in short, wherever water

and decaying vegetable or animal matter exists these infusorial animals will be found in vast myriads. There is no doubt that they are often drawn up into the atmosphere in watery vapor, and borne to and fro by the winds. Many forms are not deprived of life by complete desiccation, (thorough drying) and may therefore be mingled with dust, and in this condition carried about by the winds, to resume their active vitality so soon as they chance to fall into water favorable to their existence."

If the foregoing statement is reliable you will see that "new cider, white pine and air" furnish all the necessary conditions of compliance with the command to "bring forth abundantly;" and, also, how it is possible that the eels in your vinegar might claim descent in regular order from Mediaeval ancestry. The microscope is a modern invention or discovery, and medical and other scientific men are making great use of it of late. It has demonstrated that there are microscopic plants as well as microscopic animals, and that the plant as well as the animal is produced "after its kind" with as much exactness and certainty as "great oaks from little acorns grow." The seeds of these microscopic plants float in the air, and are called "spores." It is supposed that they produce rust on grain, and fever and ague and other diseases in the human system, by their growth on straw and in the blood.

WHAT AILS THE CREAM?

Our butter has come as well as could be expected until the two last churnings, when I think we churned nearly half a day each time. The cream was not over seven days old; had been kept in a warm buttery, and well stirred at each skimming. We put in salt, hot water, and lastly butter, to make it come at all. Now do please some of the readers of the FARMER, or editor, let a fellow know if there is any way to make it come in a proper length of time. As this is my first attempt in the writing line, the editor will please correct any mistakes.

East Burke, Vt., Dec. 14, 1870.

s.

REMARKS.—We have made more or less butter for some twenty-five years, between November and May, and have rarely had any trouble in churning or otherwise, during that time. The first thing is to have good cows and clean milk. The milk and the cream is kept at a temperature of about 60°. The cream is taken off in from 36 to 40 hours. A little salt is put into the pot as often as cream is added and the whole stirred. Churn often; say once a week, or oftener if sufficient for six or eight pounds. In churning, have cream, churn, dasher, &c., of a temperature of about 62°. Churn steadily and moderately, and expect butter in twenty-five minutes.

These rules have been stated with greater particularity so often, that on the receipt of your letter we thought we would try your questions on Mr. O. S. Bliss, Secretary of the Vermont Dairyman's Association, and a gentleman who has made butter-making a specialty. The following is his answer. You will see that if he is correct in his idea of the cause of the trouble with your cream, the fault is at the barn and not in the buttery; with the man, not with the dairywoman, on whose shoulders the

blame for poor butter is too often heaped by masculine hands. Mr. Bliss says:—

"This is a very common cause, and is generally attributed to not salting the cows at proper intervals. It is barely possible that the salt, or the want of it, may have some remote connection with the matter; but after thoroughly investigating innumerable cases of the kind, we are led to the conclusion that the cause is fundamental.

"We never knew a case during the season of flush feed, when all the little sacs or globules of cream were 'bursting with very fatness'; but they invariably occur in seasons of short or very poor feed, or in the fall when a cart load of the frosted and bleached 'old fog' upon which the cows are forced to live, does not contain enough fatty matter to make a pound of butter, or in the winter when the cows are confined to late-cut or poor hay or straw.

"The only means of 'fetching the butter' under the circumstances, is to scald the cream and cool it down to about 60°, when it may generally be churned without undue labor. The quality of the butter is at best but poor, and probably none the better for the scalding. It is a fact well understood by experimenters, that the most complete separation of the butter may be effected by heat; but that the evaporation of the more desirable flavor follows as a necessary consequence.

"The great secret of making good butter, and having it 'come' easily, is in an abundance of rich feed."

TOP DRESSING.—PLOUGHING MANURE UNDER.

I read with much interest the communication in the FARMER of December 17, signed "C.," Wilmington, Vt. The application of manure is a subject too little discussed in our agricultural papers. Manure is the basis of all good farming in the New England States. With a good stock of manure managed in the best manner, farming is rather up hill business at the present time; but without it farming don't pay at all. I think farmers should study to get the greatest amount of benefit from what they have, and also to make all they can.

My experience has been very different from that of Mr. C. I have applied it always and in all forms, and on almost all varieties of soils, and think there is no way by which I can get so much benefit as by ploughing it in, after having been spread on to grass land. It should be turned under not very deep, say five inches.

Mr. C. wants to know when manure leaves the soil, and asks does it go up or down? I think portions of it go both ways, until retained by the soil. I am thinking but little of it leaves the soil any way if it is put where it ought to be until it is taken out in some kind of a crop. Does Mr. C. think the ammonia and the gases which arise in stirring a manure heap that has been under cover would not enrich the soil if they could be made to pass through three to five inches of earth? I stir my manure as little as possible until I get it covered up, and I am one of those men that Mr. C. speaks of who keep their teams with the plough pretty close to the men who spread the manure, for I think that all the gases that rise are floated away by the winds until some shower carries it into the soil, perhaps miles away from my field.

I do, however, top dress some on land that is too wet to plough, but I do not think I get near the full value of my manure thus applied. I have top dressed with twenty-five ox-cart loads to the acre, and got good grass about two years; but by the third year the grass would not be much better than it was before the top dressing was put on. I have also put the same amount on the same land and ploughed it in, and with a little in the hill, have got 125 bushel of ears of corn at husking time; a crop

of oats the next year of from fifty to sixty-five bushels, and then with a good catch, I would have four good crops of grass, making in all six crops, or rather eight, as I mow twice a year the two first years,—all the crops together probably varying from twelve to fourteen tons from one acre. Such is my experience in top dressing and in ploughing in the manure. C. F. LINCOLN.

Woodstock, Vt., Dec., 1870.

SUPPLY OF WATER FOR STOCK.

The question to be solved by farmers just now is, how shall we provide water for our domestic animals? Many wells that have furnished an abundance of water for family use through the drought of the past summer, now fail to yield a supply for man and beast. Running water was formerly considered a luxury, to be enjoyed only by the favored ones; but it is now regarded as a necessity on every well regulated farm. Many farmers who could not find springs with sufficient head, have put in hydraulic rams the past autumn, and others are contemplating similar improvements. Those only who are deprived of the advantages of good watering places on their farms can fully appreciate the privilege they confer, the amount of suffering they prevent and the labor they save. After one has dealt out to stock once or twice a day from a well all the water they get during the day, for a few weeks, he will value as never before a flowing stream. It is surprising how little attention is given to this subject of water, when so much is depending upon it, and when so little expense as would in most cases be necessary to provide a remedy for the evil. Wells may be resorted to when nothing better can be provided; but experience proves that, running water, such as is furnished by springs or streams, and which can be conducted to the points where it is most wanted, is not only the best for stock but far the most economical in the end. There are but few farms on which water works of this kind may not be constructed, and the water conveyed in pipes wherever desired, and nothing but a little energy and skill would be required to bring an abundant supply of pure spring water to the farmers' door, to his stock yard and sheep-fold.

THE TOBACCO CROP.

A portion of the tobacco crop has been taken from the poles and is being stripped and prepared for boxing. It has cured in good shape, and the quality compares favorably with the best crops of previous years. Sales during the week have been 20 and 25 cents for new, and 31 cents per pound for old. The weather has been favorable for stock and the price of fodder is not any higher than it was in November. W.

Sunderland, Mass., Dec. 23, 1870.

SAND INSTEAD OF STRAW.—J. S. Ives, of Salem, Mass., writes as follows to the *Country Gentleman*: You are correct in the assertion, that Massachusetts farmers advocate the use of sand as an absorbent in bedding cattle. I have used it more or less for the past fifteen years, and consider the manure much improved, as the sand retains the urine much better than hay or straw. Fresh sand I think equally as good as that taken from the sea shore. Cattle should be bedded three inches deep. We also consider it very advantageous to the health of cattle. Farmers in our vicinity collect it in August and store in a dry shed. By winter it will become dry, and will not freeze in the coldest weather.

THE MIGRATION OF BIRDS.



ISTENING to the loud "honk," "honk," of a large number of wild geese on the third of December, led the mind to a contemplation of the wonderful works of an Almighty hand every where about us. They were high on the wing, safe from shot or bullet, were flying directly west, and their slow and heavy motion and loud cries indicated a long flight and fatigue. The weather was cloudy and the air damp and heavy, so that, being long on the wing in it, they may have become encumbered with too much moisture; or, they may have passed through regions of damp, falling snow, and become so loaded with it as greatly to obstruct their passage. We were on high land, and pruning in the top of a tree, which afforded an extensive view of them as they went by. Just at night, and especially in heavy weather, their notes are quite different from those which they utter in clear weather, or earlier in the day. When apparently fatigued their "honk," or "hawk," seems more guttural and prolonged, than the sharp, quick cry uttered in clear weather.

The contrast between these denizens of the upper air, and the chattering little chickadee, hopping from branch to branch on the tree where we were, and taking insects so minute as scarcely to be discernible, could not fail to excite emotions of wonder and delight. This tiny thing, whose whole weight would scarcely exceed a couple of ounces, defying heat and cold, passes the winter in all parts of New England, uttering his cheerful chick-a-dee notes among shrubbery and in the branches of trees, where coldest winds are blowing or the air is thick with falling snow. He is proof against the vicissitudes of our winter climate, we know, but still our reflections give rise to the beautiful feelings expressed by Burns:—

"O! happy bird, wee, helpless thing,
Which, in the merry months of spring,
Delighted me to hear thee sing,
What comes of thee?
Where wilt thou cower thy chattering wing
And close thy eye?"

Why do birds emigrate? Swallows and martins leave us, it would seem, when their food is more abundant than ever; when the air is swarming with insects, and when their young are frequently not sufficiently grown to take long flights to distant lands; and yet they evince great impatience at the delay, gathering themselves into chattering conventions, sweeping the air in wide circles, darting away in a southerly direction for a brief time, and then returning and alighting in unusual places. Then they urge their young to take wing, pushing them from their boxes or the eaves of the barn, until they gain confidence, when with great apparent confusion, they suddenly dart away and are seen no more!

Many have attempted to account for such early migration among birds, but have reached no really satisfactory results. It cannot be want of nourishment, because there is still abundance in the places they are leaving. "Atmospherical currents are not the cause, nor do the changes of season explain it, as the greatest number set off while the weather is yet fine; and others, as the larks, arrive while the season is bad." The latter we have seen in February, while the earth was deeply covered with snow. Atmospherical influences can only hasten the migration in autumn, but must retard or derange it in spring. "It is the *presentiment*, says M. Brehm, of what is to happen, which determines birds to begin their journey. It is an instinct which urges them, and which initiates them into the meteoric changes that are preparing. They have a particular faculty of foreseeing the rigors of the coming season; an exquisite sensibility to the perception of atmospheric changes which are not arrived, but are approaching." The immortal Newton ascribes this sensibility to "nothing else than the wisdom and skill of a powerful and ever-living agent."

The mode of migration differs in different species, some assembling in large flocks, and taking their flight together, such as swallows, geese and ducks, while others seem to prefer taking their solitary way. The charming little *Bobolink*, which visits nearly every rural homestead in New England, towards the last of May, commences its flight south about the middle of August. On the shores of the Delaware, Potomac and other large rivers,

they feed on the wild rice, and are called Rice or Reed Birds, and when that begins to fail, they swarm the rice fields in the Southern States, and soon appear in the islands of Cuba and Jamaica, where they feed on the seeds of the Guinea-grass. But one would scarcely recognize our charming little friends down there. The males have lost their gay nuptial livery, and appear in the sombre colors of the females. They have also lost their jingling melody, with which they regaled us here, and only utter a sharp 'wee', 'wee', as they pass from us in flocks or in small numbers.

It is a matter of history, that a falcon belonging to Henry IV. of France, having escaped from Fontainebleau, was found, at the end of twenty-four hours at Malta, a distance of about 1,350 miles! In 1833, a Polish gentleman having found a stork upon his estate, near Lemberg, put round its neck an iron collar, with this inscription, "*Iaec ciconia ex Polonia*, (this stork comes from Poland,) and set it at liberty. In 1834, the bird returned to the same spot, and was caught by the same person. It had acquired a new collar of gold, with the inscription, "*India cum donis remittit ciconiam Polonis*"—(India sends back the stork to the Poles with gifts.)

Although a large portion of our summer birds leave us as autumn approaches, we are not left entirely alone in the winter. Birds come to us from regions farther north. A few years since we saw strange birds among the shrubs in pastures, but quite near thick forests, early in January. A few weeks later many of the same kind daily visited a row of large apple trees, and soon covered the snow under them with the husks of the buds; taking the inside of the buds as a reward for their labor! Of course, the trees bore no fruit the succeeding summer. This bird proved to be the *Pine Bunting*, of Canada, and the regions beyond.

Our little Blue-bird, among the first harbingers of spring, passes and repasses annually in great numbers, from the mainland to the Bermudas, a distance of not less than six hundred miles without any intervening land! What power of wing must the little creature possess, to sustain itself in that long flight, without an opportunity to rest!

This subject would afford an instructive and delightful winter evening's entertainment to those who have not yet read up on it.

THE CATTLE DISEASE.

The Board of Commissioners on Contagious Diseases among Cattle, of Massachusetts, consisting of Hon. Levi Stockbridge, H. W. Jordan, Esq., and Dr. E. F. Thayer, have issued the following circular to the city and town authorities of the State:—

The undersigned, Commissioners on Contagious Diseases among Cattle, call the attention of the Mayors and Aldermen of cities, and the Selectmen of towns, to the fact that a highly contagious disease, known as Epizootic Aphtha, or Foot and Mouth Disease, has broken out in this State, and is rapidly spreading among the cattle of very many of our towns. The disease is not of such an alarming and fatal character as the pleuro-pneumonia, yet, by its ravages, there is great danger that it will inflict immense losses on our cattle owners, and possibly to some extent injure the health of our people. The disease is communicated by the contact of healthy with the sick animals, by all inanimate things that have become contaminated, and by yarding healthy cattle on the same land, or driving them on roads previously trodden by those diseased. The cattle yards of Brighton are apparently contaminated with the virus of the disease, and animals driven thence carry and communicate it wherever they go. In view of these facts, and, if possible, that the contagion may be eradicated from the Commonwealth, we would most earnestly recommend that you, in each municipality, perform your duty as defined in Chapter 220 of the Acts of 1860, by interdicting all driving of cattle to, from, or within your respective limits (see Section 5 of said Act,) and by a most thorough and radical purification of the yards and buildings which have been contaminated by it. The Commissioners will, at the same time, make regulations to prevent any further importation of it from abroad. Notwithstanding the great extent to which the disease has already insidiously spread, we entertain the hope that, by the united energetic action of the authorities, and the co-operation of our people, this disease may be squelched, and the losses it has inflicted on the stock-growing regions of Europe be averted.

Notice to Cattle Drivers, Dealers, and all Persons Interested in the Traffic of Cattle.

In consequence of the prevalence of Epizootic Aphtha, or Foot and Mouth Disease, the Commissioners on Contagious Diseases among Cattle hereby prohibit the driving or transporting, to or from Brighton, Cambridge, or the Cattle Yards at the Medford Railroad Station, until further notice, all Cows, Store Cattle, and Working Oxen.

The Selectmen of Brighton and Medford, and the Mayor of the City of Cambridge, are directed to enforce the above order.

The municipal authorities of the several towns and cities in the Commonwealth are requested to co-operate in making the above order effectual.

As the disease is very contagious, the complete separation of such animals as have been exposed, or which it is feared have the disease, is of first importance. This commission of which Dr. Thayer, an experienced veterinary Surgeon, is a member, advise the following treatment:—

- 1st. The animals to be kept in a comfortable, dry place.
- 2d. A solution of alum, one lb. to three

gallons of water; the mouth to be washed with it daily.

3d. A solution of sulphate of copper (blue vitriol,) one lb. to two gallons of water; to be applied to the sores on the feet.

In this connection we re-publish from the *FARMER* of Dec. 24, the substance of what Dr. Law said at the meeting at Framingham.

The disease was a kind of eruptive fever, the symptoms being a hot mouth, costiveness, lameness, tightness of the skin, or "hide-bound," in the farmer's phrase. After the first symptoms blisters appear in the mouth and on the teats and in the parting of the hoofs. These degenerate into ulcers which are liable, though not certain, to result in permanent injuries, especially to the feet and udder. In some cases the hoofs have come entirely off. The animal refuses its food, apparently from soreness of the mouth rather than entire loss of appetite. The milk becomes diseased and unwholesome, and when drank by man or other animals produces a similar state of disease in them. In some cases it has proved fatal to children, and swine and dogs have both been badly affected by the virus. It appears to originate in most cases in the hoof of animals, and is not contagious through the air. It continues through a period of fifteen or twenty days. No immediate cure can be expected, but the isolation of the diseased animals was the first thing to be done.

The Professor recommended treatment as follows:—

Wash the mouth with vinegar or some cooling liquid, such as a dilution of carbolic acid, one part of acid to one hundred and fifty of water; and for the teats, a wash of one part of carbolic acid to one hundred and fifty of glycerine may be used. The hoof should be cleaned and the space between parting of the hoof cleared of detached scurf, skin and horn by drawing a strong rag roughly through it. Then apply to the raw surface pure carbolic acid, and bind with a rag covered with tar, tied between the hoofs and around the pastern.

As the inability of the animal to eat results from soreness of the mouth rather than loss of appetite, good nursing is of much importance. Soft food, such as boiled corn, Indian meal gruel, &c., should be given to preserve the strength of the animal. In bad cases it may be poured down from a bottle.

CONSTITUTION FOR FARMERS' CLUB.

As inquiries are often made for an outline of organization, we copy the following form of constitution and by-laws for a farmers' club, from the *Ontario Farmer*; forms which the editor says are in use by an existing Farmers' Club. Of course it may be varied to suit the circumstances or wishes of the members of any association which may adopt it.

Constitution.

I. This organization shall be known as the _____ Farmers' Club.

II. Its object shall be the improvement of its members in the theory and practice of agriculture, and the dissemination of knowledge relative to rural and household affairs.

III. Its members shall consist of such persons as shall sign the constitution and by-laws, and pay annually the sum of _____

IV. Its officers shall consist of a President, (two) Vice-Presidents, Secretary and Treasurer, who shall jointly constitute the Executive Committee, and shall be elected annually.

V. Its meetings shall be held weekly, fortnightly or monthly as the case may be, at such places as may be designated by the Club.

VI. This constitution may be amended at any regular meeting by a majority of the members present, said amendment having been proposed at the previous meeting.

By-Laws.

I. The President shall preside at all meetings of the Club and Executive Committee, and have power to call special meetings.

II. One of the Vice-Presidents shall perform the duties of the President during his absence.

III. The Secretary shall record the proceedings of the Club and conduct its correspondence.

IV. The Treasurer shall receive all moneys, and pay the same on the written order of the President, countersigned by the Secretary.

COTSWOLD SHEEP.

A somewhat detailed account of the breeding of the flocks and the management of the farms on the Cotswold Hills in England, where this breed of sheep originated, is furnished to the *Western Rural* by William H. Sotham, a native, we believe, of that section.

Farmers there divide their land into seven fields, and practice what is called the seven-field system of rotation. That is, take a given field, and beginning with,

1. Turnip fallow,
2. Barley,
3. Clover and rye-grass, mowed,
4. Clover and rye-grass, pastured,
5. Wheat,
6. Vetches,
7. Oats, and then turnips, &c., again.

Consequently each field produces each of these crops once in seven years. The turnips and the vetches are fed off by sheep, in rations, by "hurdles," or movable fences on the ground where they grow.

Mr. S. says that an acre of the light land of the Cotswold hills will bear a ewe and her offspring, under this system of farming and rotation of crops. Few farmers there keep less than 150 ewes to breed from; many, more than double that number. This 150 ewes bring as many lambs, and frequently twenty more, for many bring two; still there is an allowance to be made for barrenness, escapes, and deaths. This gives 150 ewes, 150 teds, and 150 lambs, on 150 acres of land.

In respect to the common idea in this country that Cotswold sheep will not do well in

large flocks, he says, "there are breeders on the Cotswold hills, who breed from a thousand ewes, following the same rotation, only more extended. Now, tell me why Cotswolds cannot be kept in large flocks. I have seen from 700 to 1000 in one field of thirty acres, but they were in separate flocks."

In this country few farmers have adopted any such systematic course of rotation as that practiced in England. Nor are farmers here in the habit of fencing off small patches of any thing they raise as food for sheep, by which we suppose they would virtually be kept in small lots. Indeed, Mr. S. says that the 1000 sheep that he has seen on thirty acres were in "separate lots." May it not therefore be possible that while Cotswold sheep may do well in large flocks in England, as they are managed and fed there, they will not do well in large lots here, as American farmers treat sheep?

SOUTH CAROLINA.—A correspondent of the *Rural Carolinian* says that the Agricultural Society of that State dates its beginning in 1784, and that it was regularly organized August 24th, 1785, by the election of Thomas Heyward, one of the signers of the Declaration of Independence, as President, and Thomas Pinckney, Vice President. Mr. Jefferson and other distinguished men of the country were enrolled as members. Many of them made communication with the view of furthering the objects of the Society, and it is an interesting fact that in 1786 Mr. Jefferson sent some seeds of a grass, found to be very useful in the South of Europe, in the hope that it would prove equally useful here. On the list of its anniversary orators are to be found the names of McDuffie, O'Neill, Poinsett, Hammond, Seabrook, Alston, King, W. Elliott, Calhoun, and others—all now departed.

HOW MUCH WORK A HORSE CAN DO.—At a meeting of the British Association at Dublin, Mr. Charles Bianconi, of Caspel, read a paper relative to his extensive car establishment, after which a gentleman stated that at Pickford's, the great English carrier's, they could not work a horse more than ten miles a day, and wished to hear Mr. Bianconi's opinion on the subject. Mr. B. stated he found by experience, he could better work a horse eight miles a day for six days in the week, than six miles a day for seven days. By not working on Sunday, he effected a saving of 12 per cent. Mr. Bianconi's opinion on this point is of the highest importance, for he has over 900 horses working sixty-seven conveyances, which daily travel 4244 miles. It is also the result of forty-three years' experience. —*Scientific American*.

From the Detroit Courier of 1831.

THE MICHIGAN EMIGRANT'S SONG.

Come all ye Yankee Farmers,
Who'd like to change your lot,
Who've spunk enough to travel
Beyond your native spot,
And leave behind the village
Where Pa' and Ma' do stay,
Come follow me and settle
In *Michigan*.

I've heard of your *Penobscot*,
Way down in parts of *Maine*,
Where timber grows in plenty,
But darn the bit of grain;
And I have heard of *Quoddy*,
And your *Piscataquis*,
But these can't hold a candle
To *Michigan*.

And you that talk of *Vermont*,
Why what a place is that?
Be sure the gals are pritty,
And cattle very fat;
But who among her mountains
'Mid clouds and snow would stay,
When he could buy a *Prairie*
In *Michigan*.

And there's your *Massachusetts*,
Once good enough, be sure;
But now she's always laying on
Taxation or manure;
She costs you pecks of trouble,
But de'il a peek can pay;
While all is scripture measure
In *Michigan*.

Then there's your land o' *Blue Laws*,
Where deacons cut the hair,
For fear your locks and tenets
Should not exactly square;
Where beer that works o' Sunday
A penalty must pay,
While all is free and easy,
In *Michigan*.

What country ever grewed up
So great in little time,
Just popping from the nurs'ry
Right into like its prime:
When *Uncle Sam* did wean her,
'Twas but the other day,
And now she's quite a Lady,
This *Michigan*.

Upon the river *Clinton*,
Just thro' the country back,
You'll find in shire of *Oakland*
The town of *Pontiac*—
Which springing up o' sudden,
Sear'd wolves and bears away,
That us'd to rove about there,
In *Michigan*.

* * * * *

Then come ye Yankee farmers,
Who've mettle hearts like me,
And elbow-grease in plenty,
To bow the forest tree;
Come take a 'Quarter Section,'
And I'll be bound you'll say,
This country takes the rag off,
This *Michigan*.

—During the year 1869, nineteen hundred patents upon agricultural subjects were issued from the United States Patent Office. The more prominent matters were classed as follows: ploughs and attachments to ploughs, 255; harvesters and attachments, 195; planters, 150; cultivators, 150; churns, 130; rakes, 90; seeding and sowing machines, 80; harrows and pulverizers, 80; bee-hives, 62; separators and smut machines, 50.

EXTRACTS AND REPLIES.

SUPPOSED CASES OF LUNG AND KIDNEY OR LIVER DISEASES IN PIGS.

Last February I had a litter of ten pigs. They did nicely for about ten days. I then saw that one of them was badly troubled in breathing. I think that if I should say that he breathed like a horse badly afflicted with the heaves, it would come nearer the case than any description I could give. There was a movement of the flanks similar to that of the horse, when badly afflicted with this disease. He seemed to be in considerable distress. He lived about forty-eight hours after I first saw him.

A few days afterwards another one seemed to be in the same condition, but not quite as bad. Soon after another and then another, and so on until all but four had the same trouble. They lived several days after they were taken, but none that showed any of these symptoms recovered. I kept them in a stable. From the time they were dropped, until within a day or two of the time that I noticed any trouble, it was very warm and pleasant. We then had a cold snap.

During the summer, I had two litters of pigs running together in my orchard. When they were about a fortnight old, (some of them a little older,) they commenced to turn black. They looked as if they had been stuck in the mud, and it had nicely dried upon the skin. There was no mud or water in their pen; nothing that they could get into to make them look as they did. They seemed to eat quite heartily, but instead of growing larger, they grew smaller. Several of them died and the rest of them recovered. I don't know as I ought to say that they recovered, for they have grown but little since. They have done the *worst* of any pigs that I ever owned, and I keep a large stock of them.

I have heard of an instance similar; but no cure did the owner find after several trials.

During the latter part of their "blackness," I placed fresh water in their pen. They seemed to like to drink it; and if anything helped them, it was this. I am quite anxious for advice and information, as I fear that I may see the same trouble again.

P.

Mirickville, Mass., Dec., 1870.

REMARKS.—We believe the pigs first mentioned, died of inflammation of the lungs,—*pneumonia*. This was caused by a sudden change in the weather from warm to cold; a very common cause of the same disease in the human species. If we had pigs similarly affected, we should put them in a warm place, feed them with warm milk and water—equal parts—and wash them thoroughly, two or three times a day, with warm water, and a little common salt in it.

The other pigs, probably, suffered from a disease of the liver; or, from an affection of two little bodies situated, one upon each kidney, and called, in anatomical language, *supra-renal capsules*. We judge by the symptoms mentioned, that the latter disease might have been the true one. The causes of such diseases are not well understood; and perhaps the owner of the pigs can form as correct conjectures in the matter, as we can. We know of no better treatment in such cases, than to give them the most nutritious food, and as much of it as can be put into them; keep them in a clean and well ventilated pen from which they can go at will into the open air; and wash them every day with clean

warm water. Perhaps a little potash or soda in the water would improve it. We should have little confidence in internal remedies in this affection; but if we were to prescribe anything of that kind, it would be water impregnated with iron, or a solution of copperas—*sulphate of iron*.

FOULS OR FOOT-ROT IN CATTLE.

I noticed in the last FARMER a piece written by Otis T. Streeter, entitled foot-rot in cattle, and not being able to fall in with the cure that he prescribed, which was much like cutting off a cow's head to cure the horn ail, I thought I would communicate to you a little of my experience with that distemper.

In the year 1856, I was keeping a dairy of sixty cows, which grazed a very nice hill pasture. In the month of June, the foot-rot broke out in the flock, which I found to be a very severe disease. When a cow commenced being lame she would nearly dry up her milk on the best of feed, and be reduced in flesh very rapidly. I commenced doctoring in various ways, and with various medicines, such as alcohol, saltpetre, blue vitriol, spirits of turpentine, various kinds of painkillers, &c. Finally I commenced washing the sore feet with brine as strong as could be made of the best dairy salt, dissolved in boiling water. After washing twice each day for two or three successive days, in order to cleanse the sores thoroughly, I covered the sore thoroughly with pitch tar, and soon the sore would be well, and the cow come to her usual mess of milk again. The disease went nearly through my flock that season, before I found a means of checking its run, which I did by feeding saltpetre pulverized and mixed with salt, after the rate of about a teaspoonful to each cow once a week. I have been keeping a large dairy ever since; sometimes as many as one hundred cows, and have frequently had the same thing break out in my flock; and have always succeeded in curing and stopping the disease by using the saltpetre. As late as last summer it commenced in my flock of sixty, and with the above remedy I stopped it by having only four cases of sore feet.

Milton, Vt., Jan. 2, 1871.

A. M. A.

REMINISCENCES OF THE NEW ENGLAND FARMER, AND OF WESTERN EMIGRATION.

The prospectus in the last number of the FARMER, announcing the fact that the paper is about entering its fiftieth year, recalls to my mind some remembrances of its early volumes, which may be of interest to your young readers.

About the year 1832, when a boy, I fell in with two or three bound volumes of the FARMER, which belonged to a neighbor of my father, and which I borrowed and read with great pleasure. I remember little distinctly of their contents, except a few lines of poetry, which have lingered in my memory, from that time till the present. There was then an extensive emigration to Michigan, and some poet had broken out in praise of that State, which was then considered "the West." I should be much pleased to see it reprinted, and perhaps you can hunt it up for that purpose. The paper was then published in the quarto form, and made quite a portable, convenient book. I am quite sure that Mr. Thomas G. Fessenden was the editor, in those days; and if I mistake not, he published or edited an almanac, furnishing some very original poetry as heading for the months, of which I remember the following specimens:—

"My dear Madam MAY, I am sorry to say
You look rather sickly and pallid,
As if from some hole, just under the pole
Your Ladyship lately had sailed, &c."

"Some poets sing the charms of Spring,
In rhyme thatingles prettily,
And make their stuff, do well enough
For south of France or Italy,
But then our Spring is no such thing,
No charms has ever she showed,
And I have seen this much praised queen
Look ugly as a tree toad."

Wishing the FARMER a long and prosperous life,
I remain yours,
Sherborn, Mass., Jan. 3, 1871. A. A. F.

REMARKS.—One of the editors of the NEW ENGLAND FARMER was among those who made up the "extensive emigration" to Michigan, alluded to by our correspondent, and whose weary journey to "the West" was cheered by the music of that song. Partly to please A. A. F., and partly to gratify ourselves and other veterans of that campaign, we have hunted it up, and publish on another page, all but two of the last stanzas, which describe particular localities, and the richness of the soil. We took up our residence in "Pontiac," where we found more shakes than poetry, though we have never forgotten the melody of "John Anderson my Jo John," in which the song was rendered by Yankee farmers "who'd spunk enough to travel" and voice enough to sing, as the boat glided along on the "raging canal" on a quiet summer evening. But Michigan is now an old State, Pontiac is a city, and the West is—Who knows where? The old song, however, may "answer with slight variation" for Kansas, Nebraska, or any other modern "Michigan."

STIFLE OUT.

I have a cow that slipped her stifle some six weeks ago. I have put it in place a number of times, but it refuses to stay. Can you tell me any way of keeping it in place? Some of my neighbors said it would callous over and not hurt her; but I do not see any change in her condition from the first.

LYMAN ALLEY.

Agawam, Mass., Dec. 27, 1870.

REMARKS.—Having put the bone in proper position, you should, if practicable, so confine the cow that she cannot move the affected limb. This confinement must be continued twelve or fourteen days, during which time the joint should be thoroughly bathed with cold water, twice or thrice a day. But if you do not succeed in keeping the bone in place, you need not fear the loss of your cow; for, as your neighbors have told you, it will "callous over," and will not greatly injure the animal. Considerable time must elapse, however, before complete recovery will be effected.

WHITE WORMS IN PLANT POTS.

Will you please inform me what will keep maggots or white worms from plants? Our plants look thrifty but the ground is full of worms. D. M. R.
Haverhill, Mass., Jan. 2, 1871.

REMARKS.—In reply to this question, our correspondent, S. O. J., furnishes the following:—

We, also, are decidedly annoyed by them, and have found wood ashes an excellent antidote; but if these are not obtainable, lime water will kill them; or a little slacked lime sprinkled on the surface of the earth, and in the saucer of the pot.

Apply the ashes with care. Take a teaspoonful of them, a little warm, and scatter over the soil, being careful not to touch the stem or leaves of the plants.

Lime water can be made easily by slacking a large piece of lime in a pail of cold water, letting it settle, and then bottling for use. Warm it, and give each pot a tablespoonful twice a week. Both these remedies act as fertilizers to all plant growth.

ANNOTTO FOR COLORING BUTTER.

I frequently see in your paper remarks about the use of annotto in coloring butter. I have used orange carrots, but I do not think butter keeps so well with carrots in it as without. Will annotto injure the keeping of the butter through the summer?

CONTENTS OF A LOG.

I wish to make a few inquiries in regard to measuring lumber. A log sixteen feet long and two feet in diameter, is measured as one cord of wood, how much cord wood will it make when chopped and split, or how many feet of lumber it saved?

CORN MEAL AND FINE FEED FOR COWS.

I wish to know which is the best and cheapest feed for milch cows,—corn meal at \$2.20 per hundred or fine feed at \$2.10 per hundred? These are their respective prices here.

M.

Tunbridge, Vt., Dec. 31, 1870.

REMARKS.—Two of these questions relate to subjects which are discussed in this and the preceding numbers of the FARMER, to which we refer our correspondent. We trust some of the boys familiar with wood and lumber measuring, will cypher out the contents of the log.

NEW PLACES FOR POULTRY.

The article in the last FARMER, credited to the *Poultry Bulletin*, in relation to old and new places for fowls is correct. A new piece of land, or an enclosure where no fowls have been kept, is far preferable to an old hen yard. When I first purchased my hill or grove, my success was wonderful. My 400 chickens, hatched in March and April, were the admiration of every visitor. As to health and rapidity of growth, they surpassed any flock I have ever been able to raise. An experienced poulterer, while admiring my flock in September, made the following remark, "Well, young man, you will never meet with such success again." His prophecy did not please me, neither did I give it much credit at that time. Yet I have found his statement correct. My opinion is, that the first and second seasons the fowls destroy all animal food, such as worms, insects and their eggs, and therefore do not obtain this most necessary food for young fowls. If any reader of the FARMER entertains doubts upon this subject, I advise him to put a brood of young chicks in an enclosure where fowls have not been raised, and where grasshoppers and insects abound; then place another brood of corresponding age in the old poultry enclosure, feeding with the most stimulating food, and he will soon find the former brood, in size and general appearance, far ahead of the poultry-yard flock.

Salem, Mass., Jan. 3, 1871. JOHN S. IVES.

SHORT-HORN STOCK.

At S. D. Conant's farm in Grafton, Vt., I saw some very fine stock, considering that they are not fed for show, or made so fleshy that the natural proportions of the animal are hidden from view. He has a very fine yearling bull, *Duke of Grafton*, sired by the Duke of Putney, and he by the 6th Duke of Thorndale. In color and form the Duke

of Grafton resembles very closely his grand sire, the 6th Duke of Thorndale, owned by A. Whitman, Fitchburg, Mass. I also saw nine thorough-bred cows which are said to be great milkers. One of them, a three-year-old heifer, is a fine animal. He has three fine calves, all thorough-bred animals.

FARMERS' CLUB.

The farmers of Grafton have a club in successful operation. From what I was told I concluded that the meetings must be very interesting. They are held at private houses, in rotation. The members take their wives with them, which acts as a stimulus to their best efforts. After the discussion a social time is generally enjoyed. I think such a club would be beneficial to farmers in other towns, if they would enter into it with a like spirit and enthusiasm, and for the purpose of improvement in the various branches of agriculture, and for the increase of the general stock of information.

B. D. W.

PLANTING PEAS IN FALL OR WINTER.

One of your correspondents wishes for information in reference to planting peas in the fall. Last winter was very open, as doubtless you remember. Thinking that if fall planting brought forward an early crop, planting in the winter would probably do as well in this respect, and much better as far as liability to rot was concerned, I therefore planted quite a little lot; and now for the result:—

But a small number of them came up, and those that did come at all came several days later than those planted in April. It was near enough a failure to be called one, and has satisfied me that this kind of early planting, and fall planting also, are not to be recommended. My land was light and sandy, just what is needed for such business to insure against rot.

P.

Mirickville, Mass., Dec., 1870.

MEETING OF THE AG'L BOARD AT FRAMINGHAM.

I attended the last day's session of the State Board of Agriculture at Framingham, and was very much interested in the lectures and discussions. I consider the lecture of Dr. Nichols worth a great deal to any man who owns even one acre of land. Had I supposed the sessions would be one-tenth part as interesting as this one was, I would have been present at the whole. I wish every farmer in the State could have been there; and I wish to urge my brother farmers to attend these meetings in the future; especially the young farmers. I would say to them that they cannot spend a few days more profitably than by so doing. I consider my one day's attendance the most profitable day's work that I have done in the whole year. The lecture of Mr. Gregory, on raising vegetables, was worth more than a year's experience in the business to any man who has but a small garden to cultivate. I hope that at the next annual meeting, there will be a grand rally among the farmers of Massachusetts.

C. B. RATHBUN.

West Berlin, Mass., Jan. 2, 1871.

For the New England Farmer

WINDOW GARDENING FOR JANUARY.

"The icicles hang from that cottage and bower,
Reflecting the moon's paly beam.
The windows are garnished with many a flower
By nature's cold pencil, the frosts chilly power,
Like the wild fancy work of a dream."

Though it has been winter for many a week, it is not until the latter days of the departing year, that we have felt his icy breath. It was

left for Christmas to inaugurate his reign, and on that holy day the mercury ranged far below the all-important cipher; and though we had, as we supposed, fully protected our *window gardens* by double windows, and folds of thick paper, yet King Frost touched some of the plants with his blackening fingers, and ruined their beauty! But only one window was thus injured, and we rejoice in the possession of three others, so all our pets are not gone. The puny frost-bitten darlings were put into a dark cellar, and though their leaves have fallen, a little desirable rest will strengthen their resources, and in a few weeks we shall give them stimulants, light and air, and by March they will be a "thing of joy." A *Belgium Daisy* which was in full bud has suffered the most, all its leaves are blackened and crumpled. But we cannot expect to cultivate "Window Gardens" without some drawbacks, some trials of patience, and we can only be thankful that *all* did not die; and not murmur and complain over the few that suffered. Their loss may be the means of saving others far more precious, as *Pater-familias* will now take more heed to the fire in the "soap-stone." We have taken possession of a sunny, southwestern window, in the china closet; have improvised a plant-stand out of a light-stand and a wooden moulding board, with a shelf added to the upper case, and feel secure against the depredations of the frost henceforth. We notice that "*A Housekeeper*" would like minute directions for the construction of "Window Boxes;" and would also like to know how to cultivate them. We are very glad to furnish such directions, and trust many of our readers will take an interest in floriculture and write us of their wants. We shall be happy to supply all the information we possess on the subject.

In last week's issue we answered Etta Parker's questions concerning a moveable garden on a light-stand; but most "Window Boxes" are made to fit tightly into the window shelf. Those of our readers who live in old fashioned houses, with deep window recesses, furnished with tight window shutters, have at hand an admirable convenience for a "Window Box;" and can make one exactly fitted to it. But such charmingly ancient houses are not very abundant, and those of us not fortunate enough to dwell in one, must arrange a Window Box with a moveable leg attached by a hinge to the middle of the "box" and resting upon the mop-board of the apartment. The boards for its construction should be of inch stuff for the bottom, and the sides and ends of half-inch stuff, all well seasoned; and the foundation board ought to project an inch or more at the outer side, and at both ends. The boards must be closely dove-tailed together, or tightly fastened with shingle nails. Now line it with zinc, or if preferred have a tin pan made to fit it easily, and have it painted green, so that it will not rust out. By this arrangement, it can be turned about occasionally, thus

avoiding the chief objection to these "boxes"—that is, their tendency to let the flowers grow one sided. The outer edge of the "box," can be ornamented at the maker's pleasure. Young ladies can exercise their ingenuity to invent original adornments, or can follow the directions given to Etta Parker.

The still gray and white mosses or lichens, growing so plentifully in the pine woods, afford an exceedingly pretty ornament. If wet in water, they become pliable, and can be fastened on with carpenter's glue, or tied on with brass thread wire fastened to small brads on the inner and outer edges of the "box." It presents a charmingly rustic appearance, and can be made of shaded colors by a judicious selection of the lichens. If cleft sticks of birch, oak, spruce or maple are used, they can be fastened to the wood with small brads, and varnished with gum-shellac dissolved in naphtha, or in turpentine, or with common varnish. Gnarled boughs or roots can be used;—the roots of the mountain laurel are much sought for ornamenting rustic baskets and flower stands, and if at hand, will be found very desirable for the "box," and a long root can be used as a trellis to train a vine upon. When the "box" is made and trimmed, it must be filled with a layer of fine charcoal bits or dust, at least an inch thick; this is needful to prevent the soil from becoming sour. It acts as a purifier and also fertilizes the earth. Now fill up with the richest soil you can procure; if possible, purchase it of a florist,—its cost will be small,—and your plants will repay your labor far better; but if this is not obtainable, use the best loam and mix with it equal parts of thoroughly decayed barn yard compost, and scouring sand. This is an all important ingredient in all plant compost, and the neglect to provide it for our plants, is often the cause of their failure to grow luxuriantly, and repay us with buds and flowers. Bake the mixture in the oven for several hours, so as to kill all the larvæ of insects contained therein; let it cool, then plant the "box." In this operation some taste is needful, the tallest plants must occupy the centre, the dwarfs, the corners and edges. *Lycopodium* is the prettiest for an edging, or *Stone-crop* may be substituted. *Belgium Daisies*, *Czar Violets*, *Cyclamens* and *Primroses*, are each and all desirable, for they blossom continually, and require but little care. The pine woods will give us the *Partridge Vine* with its rich, waxen, red berries. The *Cranberry Vine* is also considered a pretty plant for a "Window Garden." Were it a novelty, imported at a high rate, with a long, many syllabled name attached to it, it would doubtless possess many admirers; but as it grows in marshes, in our own country, it will not be highly extolled. But if it can be obtained, fair reader, please plant it, and admire its pure white flowers and scarlet berries, even if you do associate them with roast turkey!

Some one of the many species of the *Variiegated Foliaged* plants must find a place in the box; in the absence of flowers, it will partly supply their place. As we write, the sun shines brightly through the magenta and dark crimson foliage of an *Achyranthes gilsonii* and makes it a glory entirely overshadowing the double white *Primrose* by its side, and the *Cyclamen* near at hand, though both are in full bloom.

A winter blooming *Fuchsia* is also indispensable. There are two varieties that will bloom from eight to ten months in the year;—one is *Serratifolia*, which has a brilliant crimson corolla with petals of a darker shade. The other is *Speciosa*, a common species, doubtless known to all our readers, but it is always desirable. Its petals are of a waxen pink, while the corolla is of a brilliant crimson. The latter grows to a great height, but can be topped off, and trained into a handsome tree. *Mignonette* and *Sweet Alyssum* can be sown in the "box" and will bloom profusely, if only two or three plants are allowed to remain.

Boerhavia elegans is a very lovely plant,—its rich coral-red flowers are very plentiful.

Tom Thumb Geraniums are also beautiful for this purpose.

Nieembergia will bloom all the season, but its flowers are small.

The *Euphorbia*, with its bright scarlet leaves, resembling the plumage of tropical birds, is a great addition to every collection.

Abutilon Thompsonii, which possesses variegated leaves, green, shaded and mottled with yellow, is of easy culture, and with its beautifully striped bells, is suitable for all sorts of "Window Gardening."

Abutilon Santana has flowers of a dark brownish crimson, and is the handsomest of this species.

Torrenia Asiatica blooms winter and summer, and is lovely for hanging baskets, window boxes or gardens,—its flowers are of a light blue, marked with deep violet.

Smilax is especially pretty to train over trellises, for its peculiar growth and graceful beauty recommend it to all. It is said to grow better in wood than in pottery, and it can be made either to climb or to droop. It is a bulbous-rooted plant, but can be grown from seed. It is much sought after for table decorations, as well as for wreaths and garlands.

Linaria Cymbalaria, *Coliseum Ivy*—sometimes called *Ivy-leaved Snapdragon* is also much used, on account of its lowly habit,—indeed nothing can be prettier for a drooping vine.

These "gardens" possess an advantage over plants in pots, because they do not become dry so rapidly, and can be more easily showered, and the inevitable dust from the carpet sweeping removed. A miniature watering pot will improvise a summer shower, and the window panes and sashes can be protected from the tiny drops, by sheets of paper in-

serted between them and the plants. *Be sure* to water with warm water—*quite warm* to the hand. These frosty mornings, the earth will be chilled enough, to bear warm with profit; but don't water so plentifully that the roots decay, nor yet allow the soil to become too dry, and crack open. Give a goodly supply every morning, when, by digging down with a hair pin, you find the soil dry half an inch down. Choose a southeastern or western exposure—give all the light and fresh air possible. Stimulate occasionally as we have given directions in previous numbers and *we know* that you will derive much pleasure and profit for the time and labor you expend;—far more than you can gain by filling your brain with many of the "novels" of the period; for the flowers will speak to you of the land beyond the sun where sin and sorrow are unknown.

S. O. J.

For the New England Farmer.

BEST FEED FOR COWS.

Inquiries of Mr. Hart—Shorts and Corn Meal in connection with Oil Meal and Cotton Seed Cake—Value of Manure from various Feeds—To Drive Lice from Cattle.

I have been greatly interested in looking over the last number of the *FARMER*, and very many of the articles have received two good thorough and careful readings, as well as being made the subject of more or less conversation.

The article written by T. L. Hart, and taken from the *Germantown Telegraph*, is worthy of a careful reading by every farmer that keeps a cow. I would like to have Mr Hart make some of his statements a little fuller. "Last winter," he says, "I found that heavy feed, such as corn, wheat and rye shorts, fed to twelve cows, pound to pound, did not make as much milk as wheat-bran, into nine quarts a day." And then he says he would not dare to feed so heavily with shorts on account of their weakening effects.

Now I want to know the quantity of corn meal and shorts fed to each cow per day? Also how many quarts or pounds of shorts, will suffice as an equivalent for his mixed feed? This year he is feeding one bushel of cob corn meal to two bushels of shorts. Is this the amount fed in a day, or only half the amount? As he says he feeds twice a day.

A friend to whom I have just read the article says that he has been feeding to his cows, since the middle of October twelve pounds of shorts a day, with two small feedings a day of hay or straw; generally one feed of hay, and one of either oat or wheat straw. His cows have done well and are in prime condition. One of them has laid on so much fat, that she is in good condition for the shambles, and he has stopped feeding her shorts, and, instead, is feeding three quarts of corn meal to her. She calves next summer.

I am feeding four cows with shorts, at the

rate of ten quarts daily, to each, with good results so far, and yet I think a feed of eight quarts of shorts and one quart of meal would be better. Still my cows are in fine condition. Ten quarts of such shorts as I am feeding will weigh $7\frac{3}{4}$ lbs. Will that amount affect the cows injuriously? My neighbor does not complain of its weakening his cows, with a feed of twelve pounds to each; although he thinks that they walk as though they were a little stiff, which he attributes to the fact that he keeps them constantly in the stable, excepting that he lets them out just long enough to drink.

I would like to know if any of your readers have ever fed, in connection with shorts, either cotton or linseed meal? Would not a mixture of either of these be advantageous with shorts? The manure, with us, is one of the great objects of feeding grain, as we want it to be rich, so as to produce the best effects on our tobacco. One ton of decorticated cotton seed cake will produce manure that is worth \$27.86—and linseed cake \$19.72; while one ton of corn gives manure worth only \$6.65, meadow hay \$6.43 and clover hay \$9.64, and carrots and roots generally run below \$1.00, gold value. Is there any danger in feeding rich cotton or oil meal to cows? We know that if your Maine subscriber who inquires

How to get Rid of Lice on Cattle,

Would feed his cattle and calves oil meal for a few weeks he would drive the lice all off his animals, and then his cattle will "laugh" to see them scamper. We have also used Kerosene. The dregs from a cider barrel, or even vinegar, sopped into the hair is said to kill them. All these remedies, however, are temporary with me, while oil meal is the sure cure. Feed a calf a handful a day and there will not be a louse found near him, and the calf will grow enough faster to more than pay the outlay.

VALLEY FARMER.

Whately, Mass., Jan. 2, 1871.

ON BREEDING HORSES.

The severe work to which young horses are now subjected is the chief cause of the present great liability to disease. If they were well fed, and allowed to mature their constitutions before being trained, they would, in all probability, remain sound for a considerable time. This, we fear, is not likely to be attended to. The farmer has so many demands on his purse that he can scarcely afford to allow his horses to roam at large till they reach their fourth year; and the turfite finds it more profitable to race his colts at two years' old, than to keep them over, at heavy expenses, until such time as humanity, and a due regard to the soundness of the animals, would point out as the proper period for their first appearance on the turf. The necessities of the one, and the avaricious disposition of the other, thus ren-

ders it next to impossible to get good sound stock, either to use or to breed from.

The system of crossing which has been adopted since the introduction of thoroughbred stallions around in the country, appears to be a further cause of the degeneration of our general stock. Let his shape and qualities be good, bad, or indifferent, the one which possesses a sprinkling of blood is sure to be the animal which will be selected as a sire. His light action, showy appearance and high-sounding pedigree will be a sufficient recommendation to those who are ignorant of the various *points* and *qualities* which are connected with the strength, substance, durability and disposition of the animal. Besides, the same horse is certain of being put to a great number of mares of all sorts, shapes and sizes, without the slightest regard to that exact adaptation of form and size of dam, which is absolutely necessary in order to secure a satisfactory result. Breeding from blood-stallions is highly commendable, provided it is done with judgment and discretion; but the practice of *violent* crossing is directly objectionable, and cannot be too strongly condemned. Extremes in crossing are very rarely successful; and it is really astonishing to see farmers so constantly putting their complete cart-mares to thorough bred horses, expecting to have foals of a class fit for fast work, whereas nine times out of ten they are fit neither for slow nor fast use.

By the practice here referred to, breeders expect to produce a horse combining both strength and action; but they are very frequently treated to an animal of such a nondescript form, that he is fit "neither for the land nor the sea." In place of being a fair medium between the sire and dam, he will take chiefly after the one in some parts, whilst in other places he will lean entirely to the opposite side; and he is consequently so badly balanced and proportioned that he is comparatively useless. His temper, moreover, is frequently characterized by a want of conformity to the purpose for which his owner might think him in other respects best adapted.—*Dr. N. H. Paaren, in Prairie Farmer.*

POSITION OF THE HORSE'S NECK.

The shape and position of the horse's neck should be particularly observed by the person who trains, rides or drives the horse. It is rare to see two horses formed so exactly alike, that they can bear to have their heads elevated to the same height, without painfully interfering with the action and power of all parts of the body. How unseemly and how barbarous is it, then, for some ignorant trainers, riders and drivers, to screw up all the horses, no matter how diversified their shapes, that unfortunately fall into their hands, to the same point, for the purpose of giving them what they are pleased to call a graceful carriage?

Do such people ever imagine that gracefulness results from a peculiar and appropriate adaptation of the different parts of the animal to each other, and not from a partial distortion, such as we often see exhibited under the influence of the heavy bit, or that most brutal invention, the bearing rein?

Were it not for its cruelty, it would be very amusing to observe the manner in which some men in riding or driving prop themselves up, for the purpose of pulling, with might and main, at the poor animals' mouths, in the foolish hope of being thus able to keep them from falling, at the same time that they render them so much more attractive to the passers by. Their task is certainly a very anxious and laborious one, and, if persevered in, it is sure to end with broken knees, and perhaps a broken nose. The horse is placed in such an unnatural position, that his entire action is interfered with, and he gets such a habit of leaning on his bit, instead of watching for himself, that he is nearly certain of dropping the first moment his governor forgets the pulling process. A taut rein, with a quick hand, will have far the best chance for keeping a stumbling horse on his feet. He will then depend on his own vigilance and exertion, in the same way as he would if he were running at freedom.—*Dr. Paaren in Prairie Farmer.*

THE IRA ALLEN FARM.

Our correspondent, "Z. E. J.," furnishes the *Vermont Farmer* with a description of this farm, now under the care of C. P. Allen, Esq., Mr. Burnabee, farmer. It is in the town of Ira'sburg, once mostly owned by Ira Allen. Within the last two years about three and a half miles of stone wall have been laid in road and division fences. The stones had to be drawn but a short distance, and their removal improved the land.

A New Barn

has been built, fifty by seventy feet, and twenty feet posted, above a cellar eight feet deep under the whole barn. This cellar is to receive the droppings from the stable above, and the great amount of muck that is mixed with manure. Upon this the design is to winter ten pigs, the number to be increased indefinitely by breeding in spring and summer. The seven pigs now here (Dec. 26,) are fed upon barley meal, and the usual swill from the dairy.

The first story of the barn, above the cellar, is seven feet high and is divided into horse stable, granary, cow stable, and six pens for calves or for hospital purposes. The stanchions are so arranged that the cows stand in two rows facing the center of the barn, a feeding walk between them, and back of the cows on each side are the pens referred to. Twelve cows were wintered last year; twenty are now in the stables, and the number is to be in-

creased to twenty-five, and it is expected the farm will produce enough next year to winter them. They are good native cows, red in color and good size. In the granary on this floor is part of the thousand bushels of grain raised this year. When threshed it is run by spouts from the floor above. We go up stairs to the hay and grain barn. The floor is through the centre seventy feet long, and on each side are the bays of hay and straw. As this barn is on nearly level ground, quite an embankment has been made in the drive way to the main floor.

Muck, of which Mr. Allen said he would like to have a thousand cords, is dug and drawn to the barn for \$1.50 per cord, the measure being taken of the space in the bed from which it is removed.

MAKING CHEESE AND BUTTER.

The following statements made by J. C. Oliver of East Charleston, Vt., to whom the first premium on cheese and butter was awarded by the Orleans County Agricultural Society, at its fair at Barton, last fall, are published in the *Vermont Farmer*:—

"I submit the following report as to the manner of making my cheese: In the first place, I am careful to have my pails perfectly sweet, also my pans and cheese box. I strain my milk in pans at night. In the morning I skim my night's milk, put the morning's milk with it in the box, heat the cream almost scalding hot, and stir it into the milk. Then the milk should not be quite as warm as when milked from the cow; put in rennet sufficient to fetch it, and let it stand half an hour; cut it in small checks, and let it stand another half hour, then break it up with the hands. Let it settle, then draw off the whey, and heat it scalding hot, enough to warm the curd, repeat till the curd will squeak between your teeth, break the curd each time when you cut on the whey. Then draw off the whey, t it, three teacups of salt to forty pounds of cheese, let it stand till it is cold, then put it in the press.

My method of making butter. In the first place I deem it necessary that my milk should have good air. I do not mean by this, to have the wind blow upon the milk, but have it well ventilated. Then skim as soon as it changes, churn and wash the butter until it is free from buttermilk, then salt, three-fourths ounce of Ashton salt to the pound.

ONIONS.—Many complain that onions d not keep. The trouble is in keeping them too warm. The onion is a bulb, a plant at rest, and the least warmth starts it into activity. It is much better that onions should remain frozen through the winter, provided they can thaw gradually, than to put them in a cellar or

other warm place where their vegetative powers will be aroused. If put in large heaps onions will be sure to spoil; but if spread in thin layers and covered with hay and straw, so that if frozen the thawing may be gradual, they will keep well through the winter. It is the custom with onion growers to get their crop to market as soon as possible. If they were to provide proper storage, they would realize much more for them when sent to market later in the season.—*American Agriculturist*.

For the New England Farmer.

MOUTH AND FOOT DISEASE IN CATTLE.

Eruptive fevers, *exanthemata*, constitute a large class of diseases, which are presumed to depend upon the presence of some poison in the system, its subsequent elimination, giving rise to the distinctive symptoms of the malady.

The mouth and foot complaint belongs to this class of disorders; and although ordinarily one of the least fatal, it sometimes assumes a very severe form, and occasions considerable destruction of the tissues of important parts. Perhaps there is no disease of animals that varies more in the degree of malignancy which it exhibits in different seasons, under apparently similar conditions. Foreign cattle frequently suffer from the malady in its most virulent form; but English cattle are not exempt, under certain conditions which are favorable to the development of the virus, from the most violent manifestation of the morbid action.

Conditions of Liability to, and Origin of the Disease.

Susceptibility to an attack appears to be increased by travelling, by pregnancy, parturition, lactation and also by change of locality. But neither age, condition, management, climate, temperature nor any common causes of disease, seems to exert any modifying influence. No extremity of privation, nor the continued action of ordinary causes, is capable of inducing it; and one reason for the indifference which has been shown in respect to its ravages, is to be found in the belief of its spontaneous origin, an idea which arises out of the observation of its frequently unaccountable appearance in isolated places.

The conviction of its spontaneousness has gained strength from the fact long recognized, that cattle when being travelled from fair to fair are often attacked. But there is nothing remarkable in this fact, when it is remembered that a tuft of grass by the road-side often holds a sufficient quantity of saliva from the mouth of a diseased beast to infect a herd, and the short period of incubation of the affection accounts for its sudden outbreak during a journey which occupies only a few days.

Some of the conditions which are essential to the spread of the disease are known, but others are obscure. It is certain that the malady is eminently contagious and infectious; but it is also true, that its extension in certain years has been apparently governed by the laws which regulate the spread of epidemic diseases like cholera; and it has been found impossible to determine whether the majority of the attacks are to be attributed to the operation of morbid matter or virus, or to certain noncognisable influences, the existence of which can only be inferred from the effects produced.

A reference to the previous observations on the history of the disease will show that, while there have always been centres of infection in England, the malady has prevailed over a large extent of country only at intervals.

Not caused by Ferment in the Blood.

It is not necessary to devote any time to the examination of the hypothesis, which refers the origin of all contagious diseases to the presence of a ferment in the blood. If the idea is merely advanced as an ingenious speculation, it may be left to amuse those who find an interest in the investigation of chimeras; but if the suggestion claims to be accepted as a theory, it may be refused on the ground that chemical and microscopic research have alike failed to demonstrate the presence of the germs of ferment, or the occurrence of any process in the circulating fluid at all resembling fermentation, either in its progress or its product. Examinations of the blood of diseased cattle have been made recently, in the sheds where the sick animals were kept, and the highest powers of the microscope have been used in the investigation; but no unusual organic particles have been found. The fluid is in a state of excessive molecular activity; the red discs are nearly all of them stellate in form, and change their aspect frequently, finally assuming the circular form. White corpuscles, *leucocytes*, are more numerous than they are in healthy blood, and there are also seen many minute spherical bodies freely moving in all directions. Bacteria and *Vibrios* are constantly found; small masses of living germinal matter are also present; but it is worthy of particular remark that all these bodies have been seen in the blood and other fluids of animals affected with non-contagious febrile diseases.

Further, it may be accepted as a positive truth, that organic particles which possess the power of communicating infection to the healthy system, cannot be distinguished from those which assist in the support of the tissues during the process of nutrition. Microscopic examinations of the discharges from the eyes, the saliva, the contents of vesicles, and also of the milk, have resulted in the discovery of very interesting changes in the molecular constitution of the several secretions. The saliva when carefully collected, without touching the skin or mucous membrane of the mouth, is quite pellucid, and contains small stellate crystals, and minute spherical bodies, *monads*, which move with activity in the fluid. In the limpid fluid of the vesicles there are large nucleated cells and masses of living germinal matter, besides monads, bacteria and vibrios. Similar bodies are found in the fluid discharge from the eye.

Effect on the Milk.

Specimens of milk obtained from cows in various stages of the disease, have been submitted to microscopic inspection repeatedly, for the purpose of ascertaining, if possible, whether or not any change occurs in the constitution of the fluid likely to be injurious to the health of those who partake of it. Nearly all the specimens of milk which were tested had a low specific gravity, (1024) and generally a fair proportion of cream was thrown up. There were invariably found large granular cells, or white corpuscles, having the general characters of the pus globule. The milk from one cow was examined from the commencement to the termination of the disease, and for three weeks after recovery; and it was observed that the pus-like bodies remained during the whole time. At the worst period of the affection, the bodies were numerous, and as the disease declined, they became fewer in number; but some were seen on the last examination, three weeks after recovery. Monads and bacteria were among the cells detected in every specimen, and these bodies remained unaffected, either in their form or rapidity of movement, by boiling. The specific gravity of the milk was found to rise slightly during convalescence, from 1024 to 1027, the last number being within three or four degrees of the normal standard. In two instances the specific gravity of the milk was respectively 1032 and

1034, the quantity in each case being reduced to one-fifth of the ordinary yield.

Milk taken in the evening from diseased animals, gave evidence of the commencement of decomposition on the following morning. This was, in some measure, due to the high temperature which prevailed during the time the observations were made. When boiled, the milk remained good for twenty-four hours, under the same circumstances and at the same time.

Effect of Diseased Milk on Animals.

What influence the numerous pus-like globules and granular cells, with the living organisms in the form of monads and bacteria, may exercise upon the health of the human subject it is impossible, in the absence of direct experiments to determine. But the evidence in respect of its effects upon the young of the lower animals is very conclusive. Some years ago, Professor Simonds lost three valuable calves in one day in consequence of allowing them to suck a cow which was suffering from the disease in the early stage. He also produced eczema in pigs by giving them the milk immediately after it was drawn from a diseased cow. Continental observers also allude to instances of the poisonous action of the milk on young animals.

Since the above observations were made, other cases of sudden death of calves from sucking the milk of diseased cows, have been recorded. Within the last few weeks calves, which were apparently well when left at night, have been found dead in the morning from this cause; and there is too much reason to apprehend that to the young of the mammalia in general, the milk from cows affected with mouth and foot disease is highly deleterious.

Probably the most recent experiment with milk from a diseased cow was made in my own house. During the early period of the prevalence of the disease, when milk was daily sent to me for examination, I gave to a young cat a liberal supply of that which was left from my experiments. The animal shortly became very weak and ill, and after the first few days, declined to accept the diseased milk, although no other kind was supplied in its place. Indeed, at the time, the milk on my own table contained an abundant quantity of the morbid elements.

Among the specimens sent for examination were some taken from animals which suffered from the effects of the disease in one or more quarters of the udder. These examples contained little else than pus-corpuscles and exudation cells, with monads and bacteria; the milk globules were few and far between. This abnormal condition of the secretions may be a subject full of interest for the pathologist; but it is sickening to know that such morbid matter is used to swell the general bulk of the morning and evening quantum of milk which is supplied to the population, who, if any suspicion is aroused, are quite reassured by the dairyman's entirely romantic statement, that "when cows have the disease all the milk dries up."

Flesh of Diseased Animals Harmless.

Meat from diseased animals has also been carefully examined, and the results of the investigation are altogether satisfactory. No morbid products have been detected, and excepting the presence of some of the parasitic bodies, — *psoro spermis*, — which were found abundantly in the flesh of animals dead of cattle plague, and other malignant diseases, nothing of an abnormal kind has been observed. It may, therefore, be safely assumed that the meat of animals affected with mouth and foot disease is harmless; the more so that it always, unlike milk, undergoes some culinary process, before being consumed.

Communication of the Disease.

From experiments, which will be hereafter referred to, it appears that the contagion is in a most

active form in the saliva, and it is remarkable that this fluid contains the fewest morbid products. Nevertheless its contact with the interior of the mouth of a healthy animal quickly causes the development of the disease.

There is no evidence of communication of infection by the skins or other parts of dead animals; and it is not certain, although very probable, that the gaseous emanations from diseased beasts are dangerous to those in the immediate neighborhood. The spread of the infection along a certain line of country from one farm to another is supposed to indicate contamination of the atmosphere; but, in considering this mode of communication, the fact that animals often remain unattacked within five hundred yards of diseased cattle, must be taken into account.

Period of Incubation.

According to the general acceptance of the term, the time of incubation of an infectious disease is the period which elapses between the introduction of the virus into the system, and the manifestation of symptoms which indicate the existence of the disease. In this ordinary sense the expression is now used. Some difficulty usually presents itself in reference to the determination of the precise moment of infection. It does not follow that healthy animals herded with diseased ones should at once become the subjects of the malady; on the contrary, they may resist its influence for some time, and, therefore, conclusions which are drawn from observations of the natural progress of an infectious disease are often erroneous, and always doubtful.

Direct transmission of the virus into the system of a healthy animal, furnishes the only reliable means of ascertaining with absolute certainty the moment of infection. Tested in this manner, the period of incubation of eczema ranges from thirty-six to forty-eight hours. If the rise of temperature be taken as a positive symptom, which it is not, the incubation stage will be much shortened, as this elevation of internal heat sometimes precedes by twelve hours the formation of vesicles in the feet or mouth. The extremely rapid action of the virus is evident from the fact that symptoms of fever are apparent in thirty hours after incubation, and the full development of the characteristic signs,—the formation of vesicles,—is seldom delayed beyond the fourth day.

Professor Simonds ascertained as early as 1839, that the introduction of a small portion of hay saturated with infected saliva into the mouth of a healthy animal, caused the formation of vesicles in the mouth and feet in forty hours; milk from a diseased cow given warm to pigs caused the disease in three days.

Experiments with hay saturated with saliva were repeated by us in 1867, with the usual result; the animal took the disease in a mild form, and completely recovered in the course of a week after infection.

Failure of Inoculation.

Inoculation by puncture, and the introduction of the contents of vesicles, failed to produce any effects in cows, sheep and pigs.

These observations have an important economic and judicial bearing, because they enable the veterinary pathologist to assert in reference to an outbreak of eczema in any locality; that the affection was in some way communicated not more than four days prior to the development of the disease.

Treatment and Remedies.

1st. Enforce stringent sanitary laws.

2d. No attempt, unless under competent direction, should be made to open the mouth, or to horn down any fluids, alimentary or medicinal. If the fever is very severe, an ounce of bicarbonate of

potass may be dissolved in the drink water, and a solution of the same,—one part to forty parts of water,—may be syringed over the feet frequently, for the purpose of keeping them clean and cool. The magic healing powders prepared by Dr. A. J. Hopkins of Providence, R. I., made into solution and syringed into the mouth and feet several times a day, arrests the disease at once, with slight loss of flesh. I should recommend it to all who are troubled with the malady. Tonics and stimulants are necessary, when the disease assumes a low form of fever, and they are best administered in the food. Salts of Iron and stout may be employed with advantage in these cases. It will be rarely necessary to give any other tonics than properly prepared and nutritious food. A. BASSETT,

Veterinary Surgeon.

242 India St., Providence, R. I., Jan. 12, 1871.

EXTRACTS AND REPLIES.

SPREAD OF CONTAGIOUS DISEASES AMONG STOCK.

Many people are surprised at the rapidity with which contagious diseases spread among stock; and at first view, they do appear to be more fatal and harder to be controlled, than similar diseases among men. Why is this? Is it because contagion in the human species is different from contagion among our stock, or is it the result of greater carelessness and ignorance in treating the latter? A moment's reflection will, I think, reveal the difference.

Suppose in a case of small pox, scarlet fever, cholera or any contagious or infectious disease, the patient was kept in one room with the rest of the family; no matter how large the room or the family, both well and sick occupied the same apartment day and night; breathed the air, drank water and ate the food that had been kept in the room for hours; suppose, also, that no care was taken to avoid contact with the bed, clothing, person and even excretions of the patient, how long would it be before all the family would be sick? And if neighbors and friends came in more frequently than usual, how long time would it require to carry the disease through the town and country?

Contagion among stock has precisely the same means for spreading rapidly, when the infected animal is kept in the same stable with the well. The breath, exhalations and vapors of the sick, and their excrements pervade the whole building; the hay becomes infected; water, being a ready absorbent of gases soon becomes infected; the clothes of the attendants are infected, and everything in the barn possessing an absorbing power is more or less contaminated. Under such circumstances it is strange that a disease quickly runs through a herd, and if neighbors and strangers throng to the barn and spend an hour or more in its infected atmosphere, and in contact with infected substances, is it a wonder that other herds are soon affected?

In the present light of science and experience in treating contagion among ourselves, there is no doubt that the rapid spreading of the present cattle disease arises from negligence. And there is as little doubt that the prompt adoption of well known precautionary measures, with the help of skillful veterinary surgeons would enable us to control them better.

The occasional prevalence of contagious diseases proves the benefit of having a small stable, for a sick room or hospital. This should be light, airy, dry, warm and comfortable in every respect, and at a proper distance from the barn. Where there is such a room and the affected animal is removed to it at once, and no others allowed to come near it or in contact with anything used in it, and the attendant takes due care to change his boots, fumigate his clothing, &c., there is greater hope and certainty

of checking its ravages. It is plain that persons having the immediate care of cattle should exercise extreme caution in visiting an infected barn. It should be regarded as a pest house; and it is not safe to buy hay or anything from such a barn for some months after the disease has passed away. When it is understood how easily such diseases are communicated, the wisdom of the legislature passing stringent laws to regulate the transporting or driving of cattle will be fully admitted; and it is the duty of every owner of stock to help enforce them and all other minor prudential measures that tend to check the spreading of these plagues.

Lawrence, Mass., Jan., 1871.

N. S. T.

BOOK-KEEPING FOR FARMERS.

Will you please show me through the medium of your valuable paper, some simple method of book-keeping suitable for a farmer,—something that will combine day-book and ledger. It is not customary with many farmers to keep any book accounts other than a mere memorandum. I do not see why it is not as necessary for a farmer to keep his accounts straight, as for a merchant or any other business man. The new year, which is so near at hand, will be a good time to begin.

J. W. ROBINSON.

Exeter, N. H., Dec. 29, 1870.

REMARKS.—Blank books all ruled and headed have been prepared for farmers' use, and we believe are now for sale, but we have forgotten the address of the publishers. But we do not suppose such books are absolutely necessary, however convenient they may be, at the commencement of keeping farm accounts. If farmers would keep correct accounts with their fields, crops, house, barns, cattle, horses, &c., we think the balance sheet would show an amount of income which few suppose they realize. Credit the buildings for rent, the horse and carriage for every ride, the crops for the board of each individual, the oxen for their labor, the cows for their milk, the poultry for eggs and chickens, the pigs for their pork, &c., and perhaps reasons would be divulged for the way in which large wages are dissipated by mechanics and clerks in villages and cities. But from the way in which labor is done and crops are harvested on farms occupied by families who "live within their own means," and produce a "little of everything," book-keeping of sufficient system to show all these particulars might require an amount of skill and perseverance that few possess. We believe it is much more difficult for a farmer to keep accounts that will show cost of production of particular crops, profits of particular fields, animals, improvements, buildings, &c., than it is for mechanics or merchants to keep such accounts of their business. And we sometimes think that those writers and talkers who exhort farmers to keep books, and censure them for not being able to show the exact cost of every crop they raise and of every animal they keep, expose their own ignorance of the details of farm management. Still we would by no means discourage farmers from an attempt at keeping accounts. It is an exercise they need. They work their bodies too hard and bother their brains with figures and writing too little. And to

help our correspondent and others who are disposed to make the new year a little more happy by an experiment in book-keeping we copy the following plan from the *Country Gentleman*, which includes day-book and memorandum and directions for ledger. Here is a leaf of the day-book or blotter:—

November 12th, 18—.	
<i>Sundries Dr. to Labor Account:</i>	
Barn for 4 men, at \$1.25, . . .	\$5.00
Garden 1 do.	1.25
Improvement account, 2 men altering barn, . . .	2.50
Field No. 1, 7 men gathering turnips,	8.75
	\$17 50
<i>Sundries Dr. to Barn Account:</i>	
Field No. 1—use of cart, . . .	1.50
do. No. 2—2 teams ploughing,	6.00
Family—7½ gallons milk . . .	1.88
	9 38
<i>Barn Account Dr. to Sundries:</i>	
Field No. 11—2666 bush. potatoes, at 39c . . .	619.50
No. 15—425 bushels potatoes, at 30c . . .	127.50
No. 15—22 loads corn fodder, at \$20,	440.00
	1187 30
November 13th.	
<i>Cash Dr. to Barn Account:</i>	
100 bushels Oats sold	80 00
<i>Labor Account Dr. to Cash:</i>	
Paid off James Dixon,	70 00
<i>Sundries Dr. to Labor Account:</i>	
Barn, 4 men,	5.00
Garden, 2 men,	2.50
Field No. 5, 4 men (ditching,)	5.00
	12 50
<i>Sundries Dr. to Barn Account:</i>	
Family—5 galls. milk, . . . 1.25)	1 85
1 bush. potatoes, 60c)	
Field No. 1—2 carts hauling stone,	2 50
Garden—2 loads manure, . . .	2 00

Make the entries in the day-book—don't be afraid of using paper,—very particularly and full, and do it every day. The habit of doing this must be fixed. A failure in this will spoil the whole. Have a name or number for every field and every animal. These accounts should be posted at the end of every month.

"Open an account in the ledger with each field, charging them with whatever manure is put upon them, crediting it to the barn,—also for use of teams and labor in ploughing, &c. Charge the barn with the crop when hauled in. This will show, after labor is charged, what each field has yielded. So there must be an account opened with the barn, which should be charged with all stock, implements, &c., and whenever any thing is sold it should be credited to the barn, so that at the end of the year, after stock is taken and valued, this account will show what the farm has made or lost. These accounts, with Cash, Profit and Loss, Labor, Improvement, and Family Expenses are all the farmer need open in his ledger, and he will find, as he becomes acquainted with book-keeping, that he is greatly interested in it."

CRIBBING HORSES.

Having seen at different times in the FARMER, extracts and replies respecting cribbing horses, its cause, and cure, I take the liberty to say, that the worst cribbers I ever saw, were horses that had always been put to the hardest kind of work, and I further state from the best authority, that cribbing horses have been entirely cured by sawing between their front teeth with a very fine saw.

WORMS IN THE LUNGS OF PIGS.

Tell us what is the matter with the pigs. I had a litter of pigs in October. They did finely for three weeks, then they commenced coughing, stopped growing, and two of them had what I called the blind staggers, but they lived along for three weeks, choking and staggering about for some time after eating their meals, and then one of them died. On examination, I found hundreds of worms crawling out of his mouth, the size of a rye straw, and from six to nine inches in length. I then opened him and he was full of worms,—thousands of them. In a few days the other died in the same way. After the first pig died I commenced putting ashes into their feed, and once in two days gave sulphur. The rest of the pigs have ceased coughing, but are little runts, and do not grow. Others have lost their pigs in the same way. H. SPRING.

Washington, Mass., Jan. 9, 1871.

REMARKS.—There can be no doubt that the parasitic worms mentioned by our correspondent were the cause of the disease and death of his pigs. And it is possible that the cases in Mirickville, mentioned in the FARMER of Jan. 14, as supposed cases of lung and kidney or liver diseases may have been produced by the same cause. Since writing our remarks on those cases, we have seen statements in the western papers which lead us to think that this may be the case.

A correspondent in Epworth, Iowa, writes to the *Western Rural* that he has lost ten fine Chester Whites, and that on examination he found the lungs filled with worms the size of a cambric needle. His description of the symptoms is about the same as that given by Mr. Spring. The Veterinary editor of the *Rural*, after some general remarks on the way in which different "entozoa" affect animals, such as Flukes in sheep, "Strongylus"—little round worms—in calves, sheep, pigs, fowls, &c., says:—

"In Eastern Europe it is not very uncommon to find large numbers of worms in the lungs of pigs killed in the public slaughter-houses, and it is frequent in Switzerland and France. The male of this species is from eight to nine lines in length, and the female about an inch and a half. The females are by far the most numerous of the two. It is clear that there are two distinct stages of the affection, the one mistaken for true tubercular disease, and the other when the worms are fully developed and lodged in the air-passages."

"To cure the disease, inhalations of chlorine gas are recommended, or the internal administration of camphor and turpentine, in oil (according to size of animal)—camphor, fifteen grains to one drachm; oil of turpentine, one to three drachms; and olive oil, one-half to an ounce and a half; mix, and give once daily.) Sound food must be allowed, with

ferruginous tonics. The iron may be given to the extent of ten to twenty grains daily to each pig, with a drachm of common salt mixed together with the food."

MAKING BUTTER IN WINTER.

Having been a reader of your valuable paper for many years, and a practical farmer's wife for more than twenty-five, I presume to offer a few simple rules for making good butter in winter, as in your last issue, "S." wants to know "what ails the cream?"

In the first place, I would have the cows well fed, well bedded, and milked as clean as possible. Then it seems to me, if our farmers would take a little more pains to make labor convenient, about half the work would be saved.

I have a closet in my kitchen, four feet six inches high, five feet three inches long, one foot six inches deep, with one board shelf in the centre, for strength, and seven tiers of slats, set edgewise, three-fourths by one and a half inches, and six inches apart. This closet will hold over forty pans of milk, as four large pans or five small ones will stand on a shelf.

When my milk comes from the barn, I strain it into as many pans as it seems best, and set each pan over a kettle of scalding water till a skim rises. This process I think much better than skimming the cream. When I skim off the cream I set it where it will not chill, and stir it faithfully each time I add any to it. Before churning, I set my pail or pot behind the stove, from twelve to twenty-four hours, and have the churn well scalded before putting the cream in. I do not have to churn over fifteen minutes. If these rules are carried out, a good article will be produced even in winter. CARRIE.

Worcester County, Mass., Jan. 7, 1871.

REMARKS.—Mrs. Carrie will receive the thanks of many troubled butter-makers for the foregoing, and if her description of that neat little milk closet shall secure for others a like convenience, they will have additional cause for gratitude, when showing lumps of good winter butter, as the results of the observance of Carrie's rules.

SIGNS OF PREGNANCY IN COWS.

I have two valuable cows, both raised by myself, one being of native breed wholly, the other half Jersey. They both went to the bull near the same time, and till within a few days past, have given promise, so far as I know, of coming in about together; and this would have been near the first of March. But now I find at this late day, that one of them appears like a cow not with calf. Is it within your own, or the experience of any of your correspondents, that a cow should for six months after going to the bull appear as if all was right, and yet at this late day, should lead you to suppose her farrow? As I do not recollect any discussion of this topic in any number of your excellent paper, I would thank you to lay it before your readers and correspondents, and give us the results of your own or their experience. D. C.

Essex County, Mass., Jan., 1871.

REMARKS.—Your cow is with calf; or, she has aborted; or, she is farrow.

Is she with calf? Prof. Law mentions the following, as being trustworthy signs of pregnancy in cattle. 1. Absence of desire for the bull at the regular period. 2. The filling and pendant position of the abdomen. 3. The movements of the calf, seen in the right flank, especially after a drink of

cold water. 4. When the closed fist is punched into the right flank suddenly, and held for a few seconds, the calf is at first repelled, and as it floats back in the surrounding liquid, it is felt to strike against the knuckles. 5. Application of the ear over the right flank, will often detect the beating of the calf's heart. 6. A careful examination with the hand in the rectum, made by some one acquainted with the parts, will give positive indications.

Has the cow suffered abortion? This question can best be answered by yourself, or by those who have had the care of her. Is the cow farrow? She certainly is, if all or nearly all of the signs of pregnancy are absent, and she has not aborted. Have any of our readers known a similar case?

SELLING MILK.

I feel a deep interest in farming, and believe that there is no need of the farm products being controlled by speculators. If the farmer will awake to his true situation he will find the matter rests wholly with him. In my vicinity the chief product of the farm is milk. We depend more on that article than all the rest; but it is the only article we sell, of the price of which we have nothing to say. And why is it? Because we neglect to use the power that lays in our own hands. If we do not walk with the staff we hold, no one is to blame but ourselves. The speculator has grown rich out of us. And Napoleon like, has learned to be obeyed, while we, "meek as Moses," have learned to obey him. Let us open our eyes and see what is before us. Let us join together, all of us, and show a bold and honest front, and give the speculator to understand that we *will* have our rights; that the time has come for the farmer to make the price for his milk. I say to you, brother farmer, we can and must break up this ring of monopolists. I know no better way than to follow the example the speculator has set for us, that is, to put ourselves under bonds not to sell one drop of milk to him, after the first day of next April, unless we get a fair price, and fair treatment about the return of milk after it has been trucked to market. If we take this course you can plainly see he cannot do business one day without our milk. In my opinion this is the only sure and safe move to make. Idle talks will not do; we need prompt action. We must talk the subject over in our club meetings, and call a convention of milk producers; draw up our bonds, and every man come promptly, up and sign them. I can see no reason why such a course as this should not be adopted. One thing is certain, if we allow the speculator to handle us for ten years to come, as he has for ten years past, our farms will not sell for half they cost us. c. w.

Weston, Mass., Jan., 1871.

REMARKS.—If the carriers of newspapers had obtained such control of their circulation that they could come into the offices of the publishers and gravely inform them what would be the price of their respective publications for the next six months, we should suppose that the proper course for those publishers to pursue would be to adopt some other plan for the circulation of their papers, and to discharge their old agents at once and entirely. Consequently we cannot endorse our correspondent's recommendation. Farmers raise the milk, and they should control the product till it reaches the consumer. And until they make up

their minds to do this, all "bonds" and Fourth-of-July speeches, will not do good enough to pay for the paper they are spread on. Some such course as that suggested by Judge French at the late meeting of the Milk Producers' Association, must be adopted. Both fire and agents are "good servants, but hard masters."

FARMERS' CLUBS IN ENGLAND.

At a recent meeting of the Much-Wenlock (England,) Wapentake Farmers' Club, the third in order of its kind in the Kingdom, established twenty-seven years ago, the New American Revolving Mould Board Plough attracted much attention and elicited remarks of high commendation, not only from the judges, but from a large number of practical agriculturists, for its novelty, simplicity and perfection of the ploughing.

The following prizes were embodied in the report:—"Essays," a prize of £10, the gift of the Right Honorable Lord Wenlock, for the best essay on the advantages of steam cultivation, and the best means of introducing it into the Club District.

Some of the other prizes ranged as follows:—for the best cultivated farm; for the best cultivated root crop; for the best cultivated root crops, on farms not exceeding 100 acres; for the best managed farms; for the neatest cottage and garden.

Shepherd prize—first class, 232 lambs from 150 ewes; second class, 82 lambs from 50 ewes. Ploughing, eleven competitors. Hedging, nine competitors.

Agricultural clubs have of late years been the means of stirring up and rooting out the old come-day, go-day, pray-send-Sunday system of farming, in the Old World, and have done a vast amount of good. They have given new life and energy to the young and rising generation.

Those British Agricultural Clubs and Societies don't give prizes for the best "trotting horse." By the owner of such no praise is actually merited. No, they subscribe their money to farmers and their servants—the real tillers of the soil—for their zeal, industry and good management in agriculture. That man who can produce the finest wagon horse for agricultural purposes gains a prize; but they don't want, and don't have "trotting" horses on the plough or on the thrashing machine. They are purely agricultural, and not jockeying clubs.

TO MAKE A SOW OWN PIGS NOT HER OWN.

Having a Chester white sow that brought more pigs than she could raise, but not liking to knock them on the head, I took some away and put them in a four-bushel wheat sack together with four other pigs, of the same age, belonging to another sow; tied up the bag, and put them away in the bush to tumble and roll together, out of hearing of the sow which owned the four pigs. She was very uneasy at losing her family. In the course of an hour, I emptied the whole lot out before her. She looked at them very closely, turned them over with her nose, smelled first one and then another, but was quite unable to distinguish her own from the new addition. So down she lay for them all to suck, and took to them right away, with motherly care.

JOHN WHATMORE.

Bridgenorth Farm, Dunleith, Ill., 1871.

SALTPETRE IN BUTTER.

Your correspondent, S. O. J., exercising her womanly prerogative is bound to have the last word about saltpetre and washing butter. To this I will most graciously assent after one word more.

Of more than twenty chemists and professors in agricultural and medical institutions, and a host of medical practitioners, with whom we have con-

versed on the subject, we have met *not one* who does not pronounce the use of saltpetre in butter making injurious in its tendencies.

The "infinitesimal doses" S. O. J. speaks of in her rejoinder of Jan. 7, cannot be the doses I alluded to; for in her former paper, that to which I took exceptions, it was recommended to put two heaping tablespoonfuls (not less than three ounces) into each three gallon jug of cream. That implies a little backing down on her part; but that is uncalled for, since we always back right down when a woman assails; and we beg pardon for having innocently and ignorantly raised our humble voice against drugging an article of such general consumption as butter. We have known a case where the whole product of a large dairy was sold much below the ruling price of butter of the same general quality, simply because it had been drugged with saltpetre; but that may only prove that the commission merchants and the purchasers were either fools or knaves, or perhaps both.

WASHING BUTTER.

We have never assumed that as good butter may not be made by *working* out the butter milk without water, but we do say that the washing process is much easier, and there is less liability to injure the butter than by working it without the water, and that the quality is in no sense impaired by the process.

In regard to the desire of S. O. J., to put some of her "unwashed Alderney butter, made in September, beside his (my) washed butter, in the spring, and see if he (we) could not discern the difference in the sweetness," we have to propose that she send her specimens to Hon. S. L. Goodale, Secretary of the Maine State Board of Agriculture, at Saco, Me., for comparison with the butter which he is now using upon his own table, and which was washed before being gathered in the churn.

Much especial merit is claimed for Alderney butter, but we consent to waive all that and submit the article named, which is but the ordinary product of a "native" dairy owned by one of my neighbors, churned in a box-churn, and washed when the particles were not larger than peas and worked immediately, and but once, and packed twenty-four hours after. It was made in the fall for immediate consumption, is not drugged, and is salted to suit the taste, and not for the purpose of keeping it; but we are willing to bide the issue nevertheless. O. S. BLISS.

Georgia, Vt., Jan., 1871.

THREE HUNDRED POUNDS OF BUTTER FROM TWO TEATS.

I have a cow that calved the 20th of last March, from which I have made over 300 pounds of butter. She gives milk from only two teats. She comes in the middle of next April. Have used what milk we needed for a family. She is a mixed breed. Pretty well for two teats! J. RYAN.

Putney, Vt., Jan. 6, 1871.

AGRICULTURAL ITEMS.

—The President and Faculty of the Iowa Agricultural College intend to hold Farmers' Institutes during the winter, at different points of the State.

—A new work entitled the *Egyptian Agriculturist*, was started at Cairo, in Egypt, on the 1st of June. This looks like returning toward its ancient glory, when there was "corn in Egypt," though other lands failed.

—Mildew, the *Boston Journal of Chemistry* says, is a fungoid plant, which has life or vitality like

other parasitic growths. Examine it under a microscope of 300 diameters, and its wonderful and beautiful structure will become apparent.

—Mr. Quinn's pear orchard of Duchesse d'Angoulême trees has yielded this year a net return of \$6000. The ground occupied in producing trees is less than ten acres, but it has taken over ten years to grow them, and they were undoubtedly sold at gilt-edged prices.

—The *Vermont Farmer* speaks of one farm, a short distance below Montpelier, of 150 acres, that is valued at \$12,000; another adjoining this, was sold last year by the Bailey Bros., for \$18,000; one of 175 acres, a short distance above the village, was bought three years ago for \$3000.

—The *Ontario Farmer* says that Canada millers are importing wheat from Chicago and Milwaukee largely. One miller in Goderich had bought 70,000 bushels, costing \$1.05 to \$1.10 at his mill, in gold. Other millers in the Province are also buying States wheat extensively.

—Mr. A. S. Hay, of Morgan county, Ill., raised two crops of potatoes on the same land the past season. The first crop was planted March 25; commenced using them June 1; finished digging August 11, on which day he planted the second crop, which was harvested November 5, with a larger yield than the first crop.

—The flashy owner of a crow-bait span was complaining to some bystanders that he did not know what was the matter with his horses; he had tried everything he could hear of, Condition Powder and all other specifics, but to no purpose; they *would not* improve in flesh. A stable boy, whose sympathies were aroused by the story, comprehended the situation, and modestly asked, "Did yees iver try corn?"

—Henry Ward Beecher says that every country place should have that very coquette among trees, the Aspen. It seems never to sleep. Its twinkling fingers are playing in the air at some arch fantasy almost without pause. If you set at a window with a book, it will wink and blink, and beckon and coax, until you cannot help speaking to it. That must be a still day that does not see the Aspen quiver. A single leaf will sometimes begin to wag, and not another on the whole tree will move! Sometimes a hidden breath will catch at a lower branch, then shifting will leave them still, while it shakes a topmost twig. It is the daintiest fairy of all the trees. One should have an Aspen on every side of his house, that no window should be without a chance to look upon its nods and becks, and to rejoice in its innocent witchcraft.

DIFFERENCE IN CLIMATE.—The *Rural Carolinian*, in its "Farm and Garden Calendar for January," says:—"Irish Potatoes may be put in any time during the month, but in this latitude they are liable to come up too soon, and get cut off by frost, if planted the first part of the month."

APPLICATION OF MANURE.

The *Mirror and Farmer* gives a report of the discussion by the Tuftonborough, N. H., Farmers' Club, on the subject of applying manure.

R. B. Neal said he favored ploughing in the manure; as, in a dry season like the past, if on the surface it will lay and become as dry as chips, and render very little benefit to the growing crop; and yet he thought farmers should use their judgment as to the nature of the soil.

Peter Stackpole gave it as his opinion that top-dressing did much the best on his soil, and thought top-dressing would largely increase the crop of hay on most farms. He was like the boy who wished to have his bread buttered on both sides; that is, he thought much land would bear a coating of manure ploughed in—and top-dressing also.

William H. Davis said that on light, sandy soil the manure ploughed in four or five inches worked first-rate, but on heavy, wet land it does much better spread on the surface; he thought the land retained the benefit of the dressing longer when buried beneath the surface, and that much of the richness of manure when left on the top of the soil escaped in gases and was lost to vegetation.

W. W. Blaisdell thought the season had much to do with the application of manure, but favored ploughing in. One great mistake he thought was in allowing the liquid excretions to run to waste. This is permitted by many because they are not aware that the liquid was not only of equal but even greater value than the solid portion. Every one is familiar with the great efficacy of the excrements of poultry or other bird manure compared with ordinary farm-yard manure; and this superiority is owing to the fact that in that of the bird is all the liquid as well as the solid, and hence the abundance of ammonia yielded by manure from the hen-roosts or by guano.

HOW TO FIT A COLLAR TO A HORSE—In purchasing a collar for your horse, it is important to get one that fits him, as both the animal and yourself will thus be saved much annoyance. The *Hursey and Carriage Journal* says:—

"The plan adopted in the West, which we are assured by men who have been long in the collar business, does not injure the collar in the least, is to dip it in water until the leather is thoroughly wet, then put it on the horse, secure the lames trimly, keeping it there until it becomes dry. It is all the better if heavy loads are to be drawn, as that causes the collar to be more evenly fitted to the neck and shoulder. If possible, the collar should be kept on from four to five hours, when it will be perfectly dry and retain the same shape ever afterwards; and as it is exactly fitted to the form of the neck, will not produce chafes nor sores on the horse's neck."

Ladies' Department.

WHEN I WAS YOUNG:

OR,

WHAT THE OLD WOMAN SAID TO HER DAUGHTER.

One summer eve I chanced to pass, where, by her cottage gate,
An aged woman in the sun sat talking to her mate;
The frost of age was on her brow—its dimness in her eye,—

And her bent figure to and fro rocked all unconsciously:
The frost of age was on her brow, yet garrulous her tongue,

As she commenced the doings now with those when she was young.

"When I was young, young girls were meek, and looked round kind of shy,—

And when they were compelled to speak they did so modestly;

They staid at home, and did the work, made Indian bread and wheaten,—

And only went to singing school—and sometimes to night meetin'!

The children were obedient, then—they had no saucy airs,—

But minded what their mothers said—and learned to say their prayers.

But now-a-days they know enough before they know their letters,

And children that can hardly walk will contradict their betters:

Young women, now, go flirting round, and looking out for beaux,

And scarcely one in ten is found who makes or mends her clothes;

But there, I tell my daughter,

Folks don't do as they'd oughter;

They do not do as they'd oughter do—

Why don't they do as they'd oughter?

"When I was young, if a man had failed, he shut up house and hall,

And never ventured out till night, if he ventured out at all,

His wife sold all her chiny plates,—his sons came home from college,—

His girls left school and learned to wash, and bake, and such like knowledge;

They gave up cakes and pumpkin pies—and had the plainest eating,

And never asked folks home to tea—and scarcely went to meeting;

But, now-a-days, when a merchant fails, they say he makes a penny;

His wife don't have a gown the less,—his daughters just as many;

His sons they smoke their choice cigars,—and drink their costly wine,—

And she goes to the opera,—and he has folks to dine;

He walks the street,—he drives his gig,—men show him all civilities,—

And what in my days were called debts, are now called liabilities;

They call a man unfortunate who ruins half a city,—

In my days 'twas the creditors to whom we gave the pity;

But there I tell my daughter,

Folks don't do as they'd oughter;

They do not do as they'd oughter do,—

Why don't they do as they'd oughter?

"When I was young, crime then was crime,—it had no other name;

And when 'twas proved against a man, he had to bear the blame;

They called the man who stole, a thief,—they wasted no fine feeling,—

What folks call *petty larceny*, now, in my days was called stealing;

They did not make a reprobate the theme of song and story,

As if the bloodier were his hand, the brighter was his glory;

But, there, I tell my daughter,

Folks don't do as they'd oughter;

They do not do as they'd oughter do,—

Why don't they do as they'd oughter?"

WHO WORE THE FIRST RING?

"Conclusive evidence is not obtainable," remarks a recent writer, "when rings were first used." But one fact is plain—they are of great antiquity, were always worn as tokens of trust, insignia of command, pledges of faith and alliance, and as marks of servitude. The religious system of Zoroaster is exceedingly ancient, and in some of the old sculptures of that sect, images hold a ring, indicative of omnipotence and power. And to this day, the Persians, Hindoos and all the Eastern nations attach great significance to the ring. The Egyptians were particularly fond of this ornament. There are specimens in the Museum of the Louvre. Some date as far back as the reign of Moeris. At the British Museum there is an exceedingly fine specimen. This is a ring of the finest gold, of the Ptolemaic or Roman period, with figures of Serapis, Isis and Horus. The same collection has also others of a similar metal, set with the scarabæus or sacred beetle. Others have the names of Thothmes III. and Rameses III. The most ancient ring in existence is that formerly worn by Cheops, the builder of the great pyramid, found in a tomb in the vicinity of that monument, of the finest gold, with hieroglyphics. Sundry passages of Holy Writ prove the antiquity of the rings. When Pharaoh confided the charge of all Egypt to Joseph, he took the ring from his finger and committed it to him as a symbol of command. Ahasuerus did in like manner to his favorite, Haman, and subsequently to Mordecai. The impression of the Monarch's ring had the force of a command. "Write ye also for the Jews, as it liketh you, in the king's name and seal it with the king's ring; for the writing which is written in the king's name and sealed with the king's ring, may no man reverse." Rings among the God-favored people, when used as seals, were called "taboath," the name of a root, signifying to imprint and also to seal. They were commonly worn on the little finger of the right hand.—*The Young Ladies' Journal*.

DRESSING FOR THE HAIR.

It is a common practice now,—perhaps it always has been,—to use something as a dressing for the hair. If the hair falls off, some Phœnix-like substance is expected to make it spring up again into all the beauty and redundancy of youth. If it turns gray, some potent alchemy is to restore color, freshness and lustre. A good head of hair is certainly desirable, and to feel young and look young, *appropriately*, makes the world more agreeable, and promotes long life. So let us all wear the graces of simplicity, pleasing manners, and sympathy with all our fellow-men,

and if need be to give more grace to the person, to dress the hair. In doing so, however, read the timely and valuable suggestions below, which we copy from DR. NICHOLS'S *Boston Journal of Chemistry*, which calls attention to the different preparations sold by druggists for dressing the hair. It says:—

All the oils and greasy pomades with euphonious names are manufactured from lard oil and simple lard. Bears' grease is the most filthy of all animal fats, and it is safe to say that the genuine stuff is but rarely or never sold by the druggists. Castor oil and cologne spirits makes a good and cheap dressing. The oil derived from the castor bean possesses peculiar properties which admirably adapt it for use on the hair. A cheap and very good dressing is made by dissolving four ounces of perfectly pure, dense glycerine in twelve ounces of rose water. Glycerine evaporates only at high temperatures, and, therefore, under its influence the hair is retained in a moist condition for a long time. As a class, the vegetable oils are better for the hair than animal oils. They do not become rancid and offensive so rapidly; and they are subject to different and less objectionable chemical changes. Olive oil, and that derived from cocoa-nut, have been largely employed, but they are far inferior, in every respect, to that from the castor bean. Do not use any oils whatever, is the best advice. Those men and women having the finest and glossiest suits of hair, simply use soft water, washing the head every few days with pure castile soap. But as we do not expect everybody to subscribe to this formula, it is well to caution the general public against the indiscriminate use of preparations sold for the hair."

DOMESTIC RECEIPTS.

SASAGES.—The proper seasoning is salt, pepper, sage, summer-savory, or thyme; they should be one-third fat, the remainder lean, finely chopped, and the seasoning well mixed, and proportioned so that one herb may not predominate over the others. If skins are used, they cannot be prepared with too much care; but they are about as well made into cakes; spread the cakes on a clean, white wood board, and keep them in a dry, cool place; fry them long and gently.

LARD.—Leaf lard is the nicest for all cooking purposes; skin all the fat that is to be tried into lard, and commence by frying gently a little leaf lard, or your fat will scorch; let it cook slowly, and dip off the fat as fast as it is liquefied, and strain it through a cloth; when all is strained that can be dipped off, squeeze the remainder by itself in the cloth. If the lard is to be used for cooking, salt it a trifle when first put on; much of the salt will be found at the bottom of the kettle undissolved,

still, it would seem to be better that salt should be used. If the lard is to be used for burning in lard lamps, salt would be injurious. If the fat is not skinned before trying, the gluten in the skin will make the lard impure and frothy. Save the scraps and skins for soap grease.

POTATO PASTE.—A dough or paste can be made from a mixture of potatoes and flour that is easy of digestion. Take three or four good-sized potatoes, boil them well, mash as smoothly as possible, then add a quart of flour and as much lard as may be desired. Work all well together and roll in the usual way of flour paste.

DOUGHNUTS FOR NEW-YEAR AND AFTER.—Boil one quart of new milk and melt in it half a pound of butter. Beat three eggs with two pounds of sugar, then pour on the boiling milk, stirring all the time. When nearly cold stir in a teacup of yeast, a teaspoonful of salt, and flour enough to make a stiff batter; when quite light knead in flour enough to make a soft dough. Add a grated nutmeg and a little mace. Let it rise again until very light, cut in strips, or according to fancy, and fry in hot lard.—*Ger. Telegraph.*

A DELICIOUS SWISS-CAKE.—Beat the yolks of five eggs and one pound of sifted loaf-sugar well together; then sift in one pound of best flour, and a large spoonful of anise-seed; beat this together for twenty minutes; then whip to a stiff froth the five whites, and add them; beat all well; then roll out the paste an inch thick, and cut them with a moulded cutter rather small; set them aside till the next morning to bake. Rub the tins on which they are baked with yellow wax; it is necessary to warm the tins to receive the wax; then let them become cool, wipe them, and lay on the cakes. Bake a light brown.

SEED-CAKE.—Take half a pound of butter and three-fourths of a pound of sugar, creamed; three eggs, beaten lightly, and two table-spoonfuls of picked and bruised caraway seeds; dissolve half a teaspoonful of soda in a cup of new milk; mix these well together until they are about the consistency of cream;

then sift in two pounds of flour, mix well with a knife, and roll them out into thin cakes, about an inch in thickness. Bake in a quick oven.

BUCKWHEAT CAKES.—Have ready two cups; put one teaspoonful of tartaric acid in one cup, one teaspoonful of soda in the other cup; add to each about two table-spoonfuls of cold water; stir it well. Make one quart of buckwheat meal into a thick batter, with moderately warm water; add the contents of one of the cups; stir it well; then pour in the contents of the other cup; stir that well also; add to the whole one table-spoonful of melted butter, and bake on a griddle nicely cleaned and greased with good lard. The batter is ready for use as soon as mixed.

AN EXCELLENT MARMALADE is made by boiling sweet apples alone, in cider made of sweet apples, and boiled down so as to be very rich. The sauce is in this case strained warm through a very coarse sieve or riddle, and boiled again a little while; or it may be put into deep dishes and set into the oven after the bread is drawn.

BOILED PEARS are eaten with roast meat instead of apple or cranberry sauce. Choose fair, smooth ones; put them into cold water and boil them whole, without paring and without sugar. It will take an hour and a half, according to the size of the fruit.

TO PICKLE RED CABBAGE—Get a head of the darkest red cabbage, and slice it very thin; shake on it a little coarse salt and let it rest twenty-four hours to drain. Boil an ounce of black pepper and an ounce of allspice in a quart of vinegar, and when cold pour it over the cabbage, then pack it close and keep it well covered.

AGASSIZ says that in a certain Amazonian tribe, on the day of the marriage, while the wedding festivities are going on, the bridegroom's hands are tied up in a paper bag filled with fire-ants. If he bears his torture smilingly and unmoved, he is considered fit for the trials of matrimony.



THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

MARCH IN NEW ENGLAND.

March, month of "many weathers," wildly comes,
In hail, and snow, and rain, and threatening hums,
And floods:—

* * * * *
Loosed from the rushing mills and river-locks,
With thund'ring sound and overpowering shocks.
From bank to bank, along the meadow lea,
The river spreads and shines a little sea.

Clare's Shepherd's Calendar.



MARCH comes in heralding the Spring months, but by no means excluding winter weather. In our climate, March is sometimes more boisterous and trying than either month of the winter,—alternating with snow and rain, hail and fierce winds. Sometimes the roads are blocked with drifts which are frozen by frosty nights, so that it is dangerous to attempt a passage over them, and then softened by the sun's rays, so that when once in them it is difficult to get out again. Even the railroads become so much obstructed as to stop travel for hours in succession,—snow ploughs are in

demand, and unwonted screams of an aggregation of locomotives fill the air. But this, usually, is of short duration; just long enough, perhaps, to remind the elder class of our citizens of the slow and wearisome modes of travelling by stage coach or wagon.

Only some 30 or 40 years ago, stages were run daily from most of the villages of New England to their large cities. At 20 miles from Boston, a team of four horses and coach would leave at 4 o'clock in the morning and reach Boston at 10 A. M., or at 2 P. M., or 9 at night, as the weather and condition of the roads might be. Nine passengers inside, three on each seat, with legs dovetailed into each other; noses blue and cold; fingers numb, and feet freezing! The stout passengers inside getting altogether the best time of it,—having fallen asleep, and rolling over plump into their neighbors every time the coach gave a lurch by thumping over a stone or dropping into a frozen rut. The airy position outside with driver, was scarcely less desirable than the crowded one within,—for there was room enough for stamping the feet and threshing the arms.

The roads through the month of March were usually in very bad condition, by one or another of the things enumerated above. The 20 miles' ride was occasionally sufficiently exhausting to require a day's rest before proceeding to business.

But New England has not been alone in

this particular. Travellers give even more graphic descriptions of the wretched condition of the highways in the Southern States.

Even in England, progressive as she has been, it is not long since a journey of a hundred miles was an undertaking which few people dared to hazard.

Pennant, an English writer who died about 70 years ago, describing a journey from Chester to London, says,—“the first day, with much labor, we got 20 miles, and at the end of the sixth day, to London. The strain and labor of six good horses, sometimes eight, drew us through the sloughs of Mireden, and many other places. We were constantly out two hours before day, and as late at night; and in the depth of winter proportionately later. Families who travelled in their own carriages were dragged up in the same number of days, by three sets of able horses.” The duke of Somerset lived less than 50 miles from London, and yet he had a half-way house as a resting place for the night by any part of his families travelling to the metropolis.

But with all its turmoil of the elements and bad roads, *March* is the harbinger of Spring—that season which excites all organized things. There is a new awakening in all. Man feels its force and is led to expatiate upon the Wisdom and Power which bring the wonderful changes of the seasons in their turn. The dumb animals manifest it in various ways, and the earth, shaking off the lethargy in which it has been bound, begins to spread over its surface a new life in a thousand different forms. New plants quickly spring up, new colors everywhere meet the eye, new sounds please the ear, and all thoughtful beings love to exclaim, “How wonderful are Thy works; in Wisdom hast thou made them all!” •

Look at the *trees*, and see what *March* is doing there. Only a few days since, and their thin and apparently dry twigs, indicated no signs of life. Now mark the change, and observe what the sun's light and heat can do. *March* winds may blow away their breath, and *March* clouds shed their snow and hail upon the trees, but when the winds are hushed and the clouds scattered, two or three days of unclouded sun rouses them into a discernable activity. See how the buds on some of the

elms have swollen; how their tops have thickened up; how the coverings of the buds glisten in the sunlight! All is life and activity there now. The sun has asserted its powerful sway, making the trees feel its influence through every pore. But this is not all due to an increased temperature, but largely through the agency of solar light. The nature of this action we can only understand from its effects. Three successive days of clear sunlight will excite so much activity in the twigs of a tree whose roots are in sheltered places, that an obvious thickening up among the branches takes place. This will occur when the temperature is much below the freezing point. If the clear sunshine is immediately succeeded by clouds and severely cold weather, the thickening up of the twigs will disappear in a considerable degree, the buds shrinking into and being closely encircled by their coverings or scales. These are closely applied to each other, and those on the outside are largest and thickest, thoroughly protecting the tender centre of the bud which is the seat of its vitality.

March, then, has its appointed work of beneficence to do, as well as its changing skies, bad roads, and rough winds to be endured. It will be found all right, if we ourselves are right; teaching us lessons of confidence and resignation which more quiet elements might not impart. At any rate, let us endeavor to receive and improve the lessons which stormy *March* may suggest this year.

For the New England Farmer.

THE GARDEN IN MARCH.

The best soil for a vegetable garden is generally illy adapted to growing fruit. While a deep rich soil is of the first importance to the production of fine vegetables, it is now pretty generally condemned for the fruit garden. Hence we should inform ourselves in regard to the requirements of the many different varieties of our productions; for while we have to go to work one way to obtain fruits, a different course must be pursued in many respects, to obtain the best vegetables. For the growth and ripening of our fruits, direct sunlight is essential; but many vegetables and roots hide themselves from the light in a deep rich soil, while for the full development of the foliage of vegetables, sunlight is highly essential to most varieties. Although it cannot be expected that much actual labor can be done in the garden during the month, yet

it is a good time to make needed preparations. Spring weather will be upon us soon, and our farm duties will require a large share of attention. We can now decide what we will cultivate the coming season, and make our plans accordingly. Mankind are creatures of habit in respect to the vegetables they eat, as well as in other things. The French are noted Salad eaters, depending upon Salads for a relish to every meal. The English use them but little, while we are largely meat and vegetable eaters, using comparatively few Salads. Some nations find in Artichokes, Cardoons, &c., their favorites, and grow them to the exclusion of other varieties.

Believing that a diet composed largely of vegetables is the healthiest and most economical, we commend it to all, and especially to the poor, and advise to the growing of good vegetables in greater variety.

The potato is the main vegetable, and among a considerable class almost the only one used. This vegetable is of inestimable value to all classes and its culture demands our first and greatest attention, in order to retain its health and purity. Notwithstanding the time it has been cultivated among us there are many characteristics and requirements of it with which we are comparatively ignorant; and many more in which we disagree as to which is best. No subject has been more freely discussed by cultivators than the proper method of planting, whether whole, or cut, small, large, or medium sized, yet without coming to any positive conclusion. Undoubtedly there is a right and a wrong course with this vegetable, as well as with any other plant. But with all our theorizing and experimenting, we cannot grow good potatoes with the same culture on our farms to-day as we could forty years ago.

COLD FRAMES.—These beds will need examining to see that the plants wintered in them are in good condition. As long as the weather remains cold, the plants should be kept dormant, or as nearly so as possible. Protection must be given cold nights, and airing on mild, sunny days. It is necessary to harden off the plants as fast as is safe, so as to plant out early.

HOT BEDS.—Near the close of the month, if the ground is free of snow, and there are indications of the near approach of spring weather, it will answer to start the hot-bed; in the meantime the manure for heating should be accumulating and be got in readiness by piling the horse stable manures with a small proportion of cow stable, in a pile, and turning to reduce fermentation. See that the frames and sash are in perfect order.

HORSE RADISH.—Dig, grate, and prepare for table use. This is an excellent appetizer if prepared in the following manner: grate it as fine as practicable, press it in wide mouthed bottles, and add a pinch of salt with water sufficient to moisten the whole; when used, if

you prefer vinegar, take out a little in a cup and add the vinegar; but do not put it up in vinegar, as it deadens the life, and the peculiar tang is lost.

SEEDS.—Have you looked over the list we gave last month and decided what you will grow this season? Have you obtained any that you lacked? If not, no time should be lost. Compare notes with your most enterprising neighbor; perhaps he has seeds saved from choice vegetables which you did not grow, and would be willing to exchange, or sell, or give. Get good seed, true to name, and be sure that they have the vital principle in full. A seed that will only just grow, is about as good as none; indeed I should prefer not to have any, for then I should know what to do.

W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

RECENT FARM EXPERIMENTS.

In looking over the Report of the Commissioner of Agriculture for the year 1869, I find about thirty pages devoted to recent farm experiments. It contains some very valuable facts concerning the value of various fertilizers applied to different crops, and different soils.

At the Michigan Agricultural College in 1868 one acre of very light sandy soil was selected from a clover field. Upon different parts of this piece there were applied muck and leached ashes; muck and lime; muck and ashes; ashes and gypsum; ashes, muck and some other manures. The muck and leached ashes produced the most clover; the gain over the adjoining unmanured plot being at the rate of 1856 pounds per acre, muck and ashes (not leached) made a gain of 1,152 pounds. Where muck alone was used, only 736 pounds per acre was realized above the amount cut on the unmanured ground. The gypsum caused a gain of 1,408, and muck with slacked lime 752.

As there is much dispute in regard to the worth of muck and ashes used upon land, all such experiments are of great value to every farmer; and ought to be carefully noticed. Of course the same results may not be reached upon different soils and at different times, so one cannot at once decide what manures are the most profitable in his own case.

I have used muck, ashes, lime and plaster to a considerable extent with various success. Two years ago we dug a lot of muck at the foot of a hard-wood forest where it was about two feet deep. A portion of this we drew on to a piece of meadow in close proximity, which we had prepared for corn. All of this we manured in the hill;—using horse and hog manure upon a portion of it, and muck upon the remainder, placing them side by side, a shovel full of each in a hill. On a part of the muck a handful of lime was put in each hill. During the summer but very little difference could be seen in the corn, and when it was harvested

the corn where the muck and lime was put, was about equal to that upon which was placed the manure drawn from the barn; and the clear muck gave only a little less yield than the other.

Upon another piece we spread a good coating of muck, harrowed it in, and planted with potatoes. In this case the crop was about as good as that which received a dressing of barn yard manure. This was a wet season. The next year was very dry, and similar experiments being made, the result was not so successful in favor of the muck. On the driest portion of the field, the corn was considerably smaller than where the manure was applied.

I would like to know the experience of others in this matter. Is a dry season unfavorable for muck? I would much prefer carrying muck to the yard and mixing it with manure, lime and ashes; but in these cases, it was too far away to make it profitable to do so.

C. H. FARNSWORTH.

Montpelier, Vt., Jan. 20, 1871.

PREMIUM BUTTER---DUTCH STOCK.

Mr. Thomas Baker of Barton, Vt., who received premiums on butter at the Orleans country fair, last fall, submitted the following statement:—

"This butter is made in all respects as I make butter all through the season. My cows are pastured upon land that was never ploughed, but has been in grass ever since the hardwood forest has been cleared from it. The cows have salt twice a week. Milking is commenced at five o'clock in the morning and at five in the afternoon. As soon as possible after milking, the milk is taken to the milk room and strained into common tin pans set in racks. The room is used entirely for milk and is well ventilated in summer, and is warmed by a stove in fall and winter. The milk is skimmed when it has set thirty-six hours, so that some is skimmed in the morning and some at night. At each skimming about an ounce of salt is put in the can and the cream stirred. I churn through the summer every other day. The butter comes in about twenty minutes. The butter-milk is then drawn off, cold water poured in and the floats turned round a few times. Then the water is drawn out and more cold water turned in and agitated with the butter. When the second water is drawn off most of the buttermilk is washed out of the butter. About two-thirds the necessary quantity of salt is then put upon the butter in the churn. By turning the crank a few times it becomes pretty well worked in. The butter is then put upon the worker and more salt added, so that an ounce of salt is used to each pound of butter. I do not try to make my butter dry by working it, but to salt evenly. I then pack the butter for market in spruce tubs holding fifty

pounds each. The tubs prepared by either burning some brimstone in a dish, in the tub, and then scalding it out, or by filling the tub with hot water in which a tablespoonful of saleratus is dissolved. Either of these methods takes about an hour's time to prepare the tub. That is, it soaks an hour or smokes an hour. Either method is satisfactory. I consign my butter to a dealer in Boston as soon as it is made.

Among my herd this summer I have milked nine full blood Holstein (sometimes called Dutch) cows and heifers, and am well satisfied of their great value as dairy cows. My average yield of butter has never been better than this year; and the color, flavor and texture of the butter has never been more satisfactory."

THE GRAFTON FERTILIZER.—As some of our New Hampshire correspondents have commended this article very confidently, both as a fertilizer and destroyer of insects, we think our readers ought to know what scientific men think and say of it. In his address at the late Farmers' Convention at Manchester, Dr. Nichols said:—

A heavy powder called the Grafton mineral fertilizer has come into the market within a year or two, and, it is claimed, has secured a large sale at the usual price of concentrated fertilizers. What is the nature of this powder? Let us judge of it by the analysis which is presented in connection with its sale. Here it is:

Silica	30.30
Protioxide of iron	6.27
Lime	20.60
Magnesia	11.17
Carbonic acid	32.11

This statement gives 30 per cent. sand, a small quantity of iron, and the remainder is carbonate of lime and magnesia. One-third (the sand,) it is plain to see, is worthless; the iron is of no account, as every soil in New England furnishes from the decomposition of the sulphurets an abundant supply; the carbonates of lime and magnesia are worth something, but how much? But little more than ground oyster or clam shells. I would hardly give five dollars at on for this insoluble, unassimilable dolomite, delivered at my farm. In fact, I should not want it at any price. I make these remarks in the interests of agriculture solely. I do not know the names of the parties who grind the rock or vend the powder. In justice to them it should be said that they do not appear to sell it under any false statements as to its chemical composition; the evil consists in holding it as a fertilizing substance of large commercial value.

HOW LONG A HOG CAN FAST.—The *Farmers' Home Journal* of Lexington, Ky., says: Mr. Wm. Hardin, of this country, missed about four weeks ago one of his fat hogs. He supposed it had been stolen. A few days ago he was hunting in one of his fields, his dogs were attracted to a sink-hole, and on examination the hog was discovered at the bottom in which there was a quantity of mud and water. The hog was drawn out and afterward well fed and is now doing well, though it laid for twenty-eight days without food.

TREES.

Ornamental and Fruit,—their Cultivation,—How they Grow,—Their Diseases, Enemies, and Uses.



ADMIRERS and lovers of trees are not confined we presume to civilized nations; but in all civilized communities they are certainly found, and by their zeal arid wastes have become fruitful places, purling waters chase their way down hill-sides that had long been dry, and make meadows green and fertile, as they go on their way to larger streams. In

some instances, villages that appeared as barren and unattractive as a desert, have been changed into beautiful parks, giving to the dwellings a charm and attractiveness which no style of architecture and no gloss of paint could have imparted. Such an example may be found in the town of Northfield, Mass., where a young lawyer stimulated the citizens to join him in planting four rows of forest trees through the broad main street of that now beautiful village. How many sit under their shade, enjoy their music, admire their beauty, and bless the memory of THOMAS POWER!

The greatly increased consumption of wood as fuel, and of all sorts of timber in the arts of various kinds, has at length aroused our people to energetic action in planting both forest and fruit trees. Another thing has contributed much to these new efforts,—the belief now generally entertained, that trees were not made merely to afford us fuel and timber, fruit and shade, but for the essential influences which they have upon the soil and crops. Various portions of the earth's surface have become barren lands, or baked clays, in consequence of taking off the trees from wide reaches of land. Addison found this the case during his travels in Italy, and referred to it in one of his poems:—

"Sometimes misguided by the tuneful throng,
I look for streams immortalized in song,

That lost in silence and oblivion lie,—
Dumb are their fountains and their channels dry."

Fortunately, the scarcity of timber, the high prices of fuel, and these new views of the offices which trees are designed to perform, have arrested so much attention that tens of thousands of trees, both forest and fruit, have been set out within a few years past. Nurseries of them have been established in every direction. New varieties of trees are being imported from foreign countries, and exchanged from State to State within our own extended territories. New varieties of fruits are constantly introduced, their merits tested, and efforts made to learn what varieties are best adapted to particular soils and sections of the country.

Another point of importance is the attention paid to obtaining a succession of fruits, which shall ripen at such seasons that the market and our tables may be supplied with fruit at all seasons of the year. As an illustration, we may cite the peculiar properties of the

River Apple,

which originated in Massachusetts. Instead of being called the "River," its name would more appropriately be *The Poor Man's Apple*; for it is, emphatically, the fruit of all others which should grow near the poor man's door. Some say the tree is a poor bearer. It is not so according to our experience. Give it plenty of room, on a good soil, and no such complaint will be made of it. When properly trained, the tree will throw out limbs near the ground, spread them in circular form, and give a large and showy head that is beautiful. The fruit is generally of medium size, but in some cases quite large. It is flattish; yellow, much red in stripes; tender, juicy; pleasant, slightly acid. It is a fine cooking and eating apple.

The peculiar and valuable quality of this apple, however, is its property of ripening gradually through a period of several weeks. Our attention has been repeatedly called to trees near our own doors, and especially so to several trees in the neighborhood in the summer and autumn of 1861, which were loaded with fine fruit, and when there was nearly a total failure of apples generally. The apples on these trees began to drop during *the last days in July*, and were in excellent condition for cooking or for eating without preparation. They continued to ripen and drop, a few each

day, until the last of October, a period of eight weeks. What remained were then gathered, and remained good four weeks longer, when the supply was exhausted. From two trees, such as are described above, some \$25.00 worth were sold, a family of seven or eight persons was constantly supplied with all they wanted for eating and cooking, and small baskets filled with them were occasionally sent to neighbors.

Altogether, it is a remarkable apple; it ought to be on every farm, but, not perhaps, more than a few trees at most, unless near a market that can be easily reached daily. For the villager, or mechanic, who has room only for a single tree, it is the apple of all others.

We have alluded to the great scarcity of timber needed in the mechanic arts. Visiting the new house of a neighbor, he informed us that the white pine lumber used for finishing cost \$75 per thousand feet. The *best* quality of white pine lumber was selling at \$90 per thousand feet. Both qualities came from the State of Michigan.

Some railroad men, anticipating the difficulties of procuring suitable timber for their works, are about combining to call upon the State to enforce the planting and preservation of trees for mechanical uses. Even now, they find it difficult to get suitable lumber for constructing freight and passenger cars.

It is quite probable that there are as many forest trees standing in Massachusetts now, as there were thirty years ago. But there are very few timber trees. There is scarcely a house built in any town in the State, but a considerable portion of the lumber comes from abroad! We reside in the country, and in a region well wooded with young trees, but most of them are cut when in the prime of their growth to meet the demand for them, so that no forests affording large and good lumber are in promise among us.

"Our increasing population creates a new demand for timber, notwithstanding the vast increase in the use of iron, brick and stone. Railroads are enormous consumers. The sixty thousand miles now in use or soon to be completed demand an almost incalculable amount of wood. With 2500 ties to a mile, these roads require 150,000,000; and these ties or sleepers decay and require renewal in about five years. This vast number causes the de-

struction of a nearly equal number of incipient timber trees—for they are usually cut when of a size suitable for only one or two sleepers.

The lumber used in fencing these roads, in building bridges, depots and cars, is quite an item to be added to former consumption. Then of the fuel! It is estimated that the distance run each day by trains on all the roads is 308,000 miles. Each engine with an ordinary train consumes about one and three-fourths cords of wood for every twenty miles. This gives a daily consumption of wood for this purpose alone of 21,560 cords, or six and a half million cords annually. * * It will require half a million trees annually to supply the decay on the telegraph lines now in use."

DECLINE OF DAIRY PRODUCTS.

In addition to the American Dairymen's Association, which recently held its Sixth Annual Meeting at Utica, N. Y., Massachusetts, Vermont, Ohio and other States and localities have dairymen's associations with organizations more complete, meetings more interesting, and action more efficient than has been attained in any other branch of agricultural industry. Throughout the "dairy belt" of our broad country, the improved system of dairying is extending in all directions. Nor is it confined to our country. Even John Bull, with all his conservatism and self esteem, is inquiring into the American system, and the Yankee cheese factory is actually working up the milk of the cows of the Good Old English Gentleman. In fact, dairying is rapidly becoming a specialty—a fever. Farmers and farmers' wives and daughters, have "dairying on the brain." Cheese factories, butter factories, condensing factories are to relieve the indoor and outdoor drudgery of the old system, and to make farm life more attractive, profitable and scientific.

But while thus congratulating ourselves on the success of progressive agriculture in the dairy line, and anticipating the time when a like improvement and melioration shall be effected in other departments of farming, a note of alarm is sounded, shrill and clear, in the *Ohio Farmer*. We allude to an article written by Mr. Anson Bartlett, President of the Ohio Dairymen's Association.

He assumes "that there is a cause, or per-

haps more causes than one, at work which will ultimately ruin the dairy interest." He fears that the dairy business will, "like the culture of tobacco in the South, leave a comparatively barren region behind it, and seek new and virgin fields for its development." He says that statistics show that Geauga county, Ohio, produced, in 1864, 6,000,000 pounds of cheese, and in 1868 only 4,000,000; in 1864 Herkimer county, N. Y., produced in round numbers 17,000,000 pounds, and in 1868 about 14,500,000,—a decrease of 2,000,000 pounds in Geauga, and of 2,500,000 pounds in Herkimer. President Bartlett then says:—

It will be found, on inquiry among old dairy regions and old dairy men, that in a majority of instances, the same farms which twenty years ago would carry forty cows, now have great difficulty in carrying thirty-five, and in some instances thirty even is too heavy a stock on the same farm where forty were kept with ease fifteen to twenty years ago; other farms are found on which there used to be twenty to twenty-five cows, which will not carry now more than three-fourths as many. Another thing, these same farms generally do not produce as much grain to sell as they formerly did, and furthermore, there has been no increase of other stock, and no more or not as much waste land. Nor are such instances isolated cases, we find them all over our oldest dairy regions, and within our own personal acquaintance we can cite scores of instances corroborating the foregoing statements.

How can we account for this state of things? There can be but one answer: the land has become impoverished; this constant drain of the elements which go to make up the butter and cheese begins to tell, and there being no return to the soil of these elements, the supply is becoming exhausted: and as nature always and everywhere insists upon compensation, the failure is perfectly natural and no more than ought to be expected, from this course of constant depletion without returning anything to the soil, or anything that will compensate for the heavy drain made from it, for every ton of cheese contains from one hundred to one hundred and twenty-five pounds of ash or inorganic elements; hence, the cheese produced by a dairy of thirty cows during a single season, will subtract from the soil some six hundred pounds, mostly phosphates. Nitrogen is an element which enters largely into the composition of cheese, and when we view the vast amount of fertilizing matter thus yearly transported from our dairy farms out of the country, we cease to wonder at the deterioration of those farms. It is the same with this as with other branches of husbandry, constant cropping without compensating the soil in the elements of fertility, inevitably produces exhaustion.

If this view of the future prospects of this important interest is correct—of which we express no opinion—it is a subject that demands the most careful consideration of all dairymen. And Mr. Bartlett suggests that a committee be appointed to investigate the matter, to collect information as to the fact and cause of the decline in dairy products, and to try experiments as to the kinds of fertilizers which

can be used to supply the drain of the dairy on the soil. He also recommends that each farmer should pay more attention to making and saving manure, and to the cultivation of forage crops, such as corn fodder, Hungarian grass, Sorghum, &c., to be used when grass in the pastures fail. And for the encouragement of efforts in these directions, he says that he knows of individual farmers who have kept up the fertility of their land, and whose farms instead of depreciating are carrying a larger number of cows now than they formerly did. This class, he adds, are what some would call actually penurious in making and saving manures; everything that will add to the size or value of the manure heap is carefully husbanded; the manure thus saved is judiciously applied to the land, instead of allowing its fertilizing qualities to be wasted by exposure to sunshine and rain, freezing and thawing; and they raise crops for green fodder. He also cites the use of bone dust by English dairy farmers, and of liquid and other manures by those of Holland, &c.

YIELD OF CORN PER ACRE.

A few months since, in a criticism on some remarks that we made on the profit of stock feeding at the West, the *Kansas Farmer* assumed that forty bushels of corn per acre was a low estimate of the average production of that State, and that those who fed the crop to stock realized from eighty-five cents to one dollar for every bushel fed to either hogs or cattle. There is also a paragraph afloat in the columns of the newspapers stating the average yield of corn in Kansas at 48.4, in Nebraska 42.2, and California 41.4 bushels per acre.

In the Monthly Report of the Department of Agriculture for January, 1871, there is a table of average yield of the principal crops in the United States for 1870, and the price on the first day of Jan., 1871. The Commissioner remarks that "the most noticeable feature in the returns" on which the table is based, "is the uniformly high rate of yield of corn, as compared with 1869, as also with the average of a series of years."

According to this table the average yield of corn in Kansas in 1870, was 28 bushels per acre, instead of 48.4; Nebraska 29.9 instead of 42.2; and California 35.6, instead of 41.4. The price of Kansas corn is put at 58 cents per bushel; of Nebraska 36 cents per bushel.

By the same table the average yield of corn in Maine is stated at 33 bushels per acre; New Hampshire, 36.5; Vermont 39.6—the highest on the list; Massachusetts, 33; Rhode Island 26 bushels per acre. The price in the four New England States varied from 98 cents to \$1.14 per bushel.

THE OLD BARN.

The following lines were written in 1867, by Daniel Ricketson, Brooklawn, New Bedford, Mass., for the *Anti-Slavery Standard*. The poet may have drawn his picture of some particular barn in his locality, but it will be recognized as sadly true of many still standing in other parts of New England.

No hay upon its wide-spread mows,
No horses in the stalls,
No broad-horned oxen, sheep or cows,
Within its time-worn walls.

The wind howls through its shattered doors,
Now swinging to and fro;
And o'er its once frequented floors,
No footsteps come and go.

But once, alas! each vacant bay,
And every space around,
Was teeming with sweet-scented hay;
The harvest of the ground.

And well-fed cattle in a row,
At mangers ranged along,
Each fastened by an oaken bow,
Stood at the stanchions strong.

But where so long old Dobbin stood,
His master's pride and care,
And from his hand received his food,
All now is vacant there.

Then these broad fields, from hill to plain,
Waved in the summer air,
With choicest crops of grass or grain,
Now left so bleak and bare.

How sweet the music of the flail,
Resounding far and clear,
As borne upon the passing gale,
It reached the distant ear.

The blackbird hailed the dewy morn,
From out his rushy perch;
The sparrow sang upon the thorn,
The cat-bird on the birch.

The robin from the highest tree
Sent forth his whistle clear,
His soul partaking of the glee
That wakes the vernal year.

And childhood's merry shout was heard
The farm-yard choir among,
Which, mingled with the note of bird,
Enriched the tide of song.

The master on his daily round
With conscious pride would go,
His faithful dog, close by him found,
Attending to and fro.

Old honest "Trip" long since has gone,
And moulders 'neath the wall;
No more he takes the welcome bone,
Or hears his master's call.

The kindly master too has died,
The matron in her grave,
And dead, or scattered far and wide,
The remnant of their race.

MAINE.—The forty-second annual meeting of the old Kennebec Agricultural Society was held at Readfield corner, January 30. The by-laws were amended so as to have the annual meeting on the first Monday of January instead of the last; also, to substitute five trustees for three. The following officers were chosen:—

President—D. H. Thing, Mt. Vernon; *Vice Presidents*—Francis Fuller, East Winthrop; H. O. Nickerson, Readfield; P. A. Chase, Fayette; *Treasurer*—B. T. Richards, Readfield; *Agent*—Gilbert Hawes, Read-

field; *Trustees*—S. Kilbreth, Manchester; S. G. Fogg, Readfield; J. E. Brinard, East Winthrop; J. R. Marston, Mt. Vernon; George Keith, Fayette.

NEW ENGLAND AG'L SOCIETY.

The annual meeting of this Society was held in this city, at the Meionaon, on Tuesday, February 7. The following officers were elected:—

President—Dr. George B. Loring.

Secretary—Daniel Needham.

Treasurer—George W. Riddle.

MAINE.—*Vice President*, Thomas S. Lang, of Augusta. *Trustees*, S. L. Goodale, of Saco; Columbus Stewart, of North Anson; Seth Scammon, of Scarborough; Calvin Chamberlain, of Foxcroft; J. E. Anderson, of North Windham; Geo. W. Ricker, of Portland; Israel B. Norcross, of Charleston; Asa Smith, of Mattawamkeag; S. Wasson, of Blue Hill.

NEW HAMPSHIRE.—*Vice President*, D. H. Goodell, of Antrim; *Trustees*, Warren Brown, of Hampton Falls; Charles Williams, of Manchester; Robert Elwell, of Langdon; Geo. A. Pillsbury, of Concord; Greenleaf Clark, of Atkinson; Natt Head of Hooksett; Samuel C. Fisher, of Dover; Peter W. Jones, of Amherst.

VERMONT.—*Vice President*, Edwin S. Stowell, of Cornwall. *Trustees*, George Campbell, of Westminster; Henry Clark, of Rutland; Peleg Winslow, of Putney; George Hammond, of Middlebury; Daniel Kimball, of Claremont; James A. Shedd, of Burlington; John B. Mead, of Randolph; Thomas H. Hoskins, of Newport; Lyman G. Bliss, of Brattleboro.

MASSACHUSETTS.—*Vice President*, Win. S. Clark, of Amherst. *Trustees*, S. H. Howe, of Bolton; John Johnson, Jr., of Framingham; J. A. Harwood, of Littleton; Thomas Sanders, of Salem; Richard Goodman, of Lenox; Wm. Birnie, of Springfield; C. B. Pratt, of Worcester; John B. Moore, of Concord; Jona Ladd, of Lowell; S. B. Noyes, of Canton.

RHODE ISLAND.—*Vice President*, Anasa Sprague, of Providence. *Trustees*, Obadiah Brown, of North Providence; L. B. Frieze, of Providence; J. B. Bullum, of Middletown; G. D. Pearce, of East Providence; Cyrus Harris of River Point; H. G. Russell, of Warwick; H. T. Brown, of Cumberland; J. W. D. Perry, of Bristol; W. E. Barrett, of Providence.

CONNECTICUT.—*Vice President*, G. H. Hyde, of Stamford. *Trustees*, S. M. Wells, of Wethersfield; B. Sumner, of Woodstock; Burdett Loomis, of Windsor Locks; H. S. Collins, of Collinsville; Albert Day, of Brooklyn; Samuel C. Cobby, of Hartford; H. L. Stewart, of Middle Haddam; T. S. Gold, of West Cornwall; Jonathan Camp, of Norwalk.

By the report of the Treasurer, Geo. W. Riddle, Esq., it appears that the receipts of the year with the balance on hand at its commencement, amount to \$1180.24; expenditures \$286.50; leaving a balance of \$893.74.

Col. Riddle also reported that the amount received at the Fair and Exhibition held at Manchester last fall was \$27,560.36, and the expenses, \$3,798.33, with a few accounts yet unsettled. He stated that when all the bills had been paid, he thought there would be something over three thousand dollars remaining, to be divided between the New England and New Hampshire Agricultural Societies, agreeably to the agreement made last year. The fees for membership this year amount to about \$700, which, added to the balance on hand, \$393.74, and the amount to be received from the proceeds of the Fair, make the total sum to the credit of the Society over three thousand dollars. This is the most gratifying exhibit which the books have ever presented.

There was quite a spirited discussion as to the location of the fair. The good people of Lowell, who had procured 175 new members of the Society and paid, as Major Ladd said, some \$700 into the

Treasury of the society, wished that proposals for the location of the fair should be received, considered and settled by this meeting, instead of being referred as usual to the Executive Committee.

Gentlemen from Connecticut, and from Worcester and Middlesex Counties, Mass., opposed this proposition as unfair and contrary to the laws of the association, which imposed the arrangements for the annual fair on the Executive Committee.

Mr. Pratt, of Worcester, Mass., said, I understand that there are two or three societies anxious to have the next fair held within their limits. I also understand that Lowell is here in force, and I think it is unfair to bring this matter before the meeting at this time. We are desirous of having the Fair held at Worcester, but we have made no preparations, knowing that the matter had been usually left to the Trustees, to be decided at their meeting held in March. Had we known that the question was to be decided at this time, we should have had men enough here to represent our side of the case. The fact is, there are not more than half a dozen of us here from Worcester, and we are not prepared at this time to make a proposition. All I can say for Worcester is, that we want the Fair there, and are ready to guarantee as much as any other place.

Mr. Cummings, President of the Middlesex, Mass., Agricultural Society, said, it seems to me that this is establishing a bad precedent. How do the Trustees know, how does any body know but that Worcester will send in proposals far more acceptable, if they will only give them a fair opportunity? If you will adjourn this meeting, let us know upon what grounds you propose to locate the New England Fair, and give us an opportunity, we will show you what we will do.

The gentleman from Lowell says they have contributed \$700 to the treasury from new members. I will pledge you a thousand dollars from new members from the old Middlesex Society, if you want them, if that has anything to do with deciding the question; or, if that is not enough, we will give you more. We are not to be driven off in that way.

I say, let this matter be placed before the Trustees in the legitimate and proper way. Let the people of Lowell lay before you, sir, the best proposition they have to make, and let offers come from any other society; let the reasons come from other localities why they should be selected rather than Lowell; let the whole subject be fairly, squarely and honestly considered.

After considerable further debate the following resolution was passed.

Voted—That the Exhibition of the New England Society be held in Lowell the present year, should satisfactory proposals be made for this purpose by the citizens of Lowell to the Executive Committee of the New England Society.

At a subsequent meeting of the Executive Committee it was

Voted—That the Secretary give public notice to all parties desirous of making proposals for the New England Fair for 1871, to send them to the Secretary on or before the seventh day of March next.

—A correspondent of the *Southern Farmer* says, that having tried many remedies for the destruction of vermin on fowls, he finds nothing so effective as a small piece of lard rubbed on the back and under each wing. He has cured hens in one day that were unable to stand up account of the ravages of lice.

EXTRACTS AND REPLIES.

OIL MEAL.—COTTON SEED.

I wish to know what you mean by oil meal? Also, what is decorticated cotton seed cake? What is the difference between cotton seed and linseed cake or meal, and which is the most profitable to feed to stock, either to make beef or as regards the value of the manure?

I have sent by the expressman two or three times for oil meal, but my cattle will not eat it very well, and some of them will not eat even an eighth part, mixed with corn meal. Perhaps I have not got the right kind. Any information in regard to it will be thankfully received. S. C.

South Scituate, Mass., Jan., 1871.

REMARKS.—Oil meal is made from flax-seed. The seed is ground into meal, then roasted over a slow fire, then powerfully pressed for its oil. This oil is "linseed oil," the oil commonly used by painters. Pressing the meal, leaves it in very hard cakes; these are oil cakes. Cotton seed cake is procured in a similar way. It is the seed of the cotton plant. "Decorticate" means literally to take off the bark. When first used, cotton seed was ground up with the bark or hull, and the meal thus prepared proved hurtful in some cases. At present the seed is hulled, or decorticated, and is hence less objectionable as feed for stock.

Formerly, in England, oil-cake was used as a manure, but it was relished so well, and proved so fattening to cattle, that it is now used for the latter purpose. Milk raisers use large quantities of it in producing that article for the market. The cake still retains considerable oil, and is considered very fattening, and also greatly enriches the manure. Some prefer linseed and others cotton-seed meal.

MILKING COWS TILL THEY CALVE.

What is the foundation for the general opinion that a cow must be hurt by milking up to time of calving? I was so taught, but this year I have had charge of one that I could not learn when she was going to calve; was told not until very late. When she got down to two quarts a day I tried to dry her off, but found she increased in milk very rapidly, and came to seven quarts before calving. I supposed the calf was spoiled, if not the cow. The calf was small but plump, and has grown well. The cow, a pure Alderney, gave over sixteen quarts a day, until the drought cut her short of feed; and has done as well as any cow in the barn, though she was not called any better than some of the others by those having charge of her before. I cannot see that it has hurt her any yet.

YOUNG FARMER.

East Greenwich, R. I., Feb., 1871.

REMARKS.—The general opinion that a cow should not be milked up to the time of calving is based on well-known physiological principles, and on the general experience of farmers. In the animal kingdom, one of the great objects of nature is the reproduction of the species. If this fact is overlooked in our ambition to make the cow a mere machine for the production of milk, we may "run" this part of the machinery to the injury of some other portion of the animal economy. In sections where cows are kept for the supply of cheese factories or city markets, the milk producing organs

may have been excited or developed to such a degree as to dwarf or weaken other organs. And the protest of nature against this disturbance of the balance of power or energy has appeared in the form of abortion,—a result that might have been anticipated from a knowledge of the facts.

Because you have as yet been unable to see any evidence of the bad effects of your single experiment, it will be unsafe to infer that the common opinion of farmers is erroneous. "The mills of the gods grind slow," and "because sentence against an evil work is not executed speedily, therefore the heart of the sons of men is fully set in them to do evil;" still it is equally true that these "mills" do "grind exceeding fine," and that violations of the laws of nature do eventually meet their just recompense. We have not the least doubt that your experiment would prove disastrous if tried on a herd for a series of years.

PIP IN HENS.

Please tell me the symptoms of pip in hens. I lose several every winter of a disease that I suppose to be the pip. They commence to make a noise that sounds as much like the pronunciation of that word as anything; then, after several weeks they falter and die.

J. L. MORSE.

East Jay, Me., Jan. 19, 1871.

REMARKS.—Mr. Bement regards the pip as the result of a derangement of the mucous membrane of the alimentary canal generally, which by preventing breathing through the nose as healthy hens do, compels them to respire through the mouth. This often produces a dry horny scale on the tongue, which should not be removed unless loose. The disease is generally attributed to bad water taken by fowls for want of good. A teaspoonful of castor oil, or thereabout, according to age and strength of fowl, is recommended, with bits of onion or parsley mixed with potatoes, or dough; or two grains of black pepper, given in fresh butter. We have seen the statement that fowls that have access to running water are never thus troubled.

PRESERVING CIDER BY BOTTLING.

Will you, or some of your numerous readers, give the "modes" of bottling cider for domestic and medicinal purposes? State if bottled in extreme cold weather, it will be likely to burst the bottles, and how the corks can be secured, so as to be perfectly tight.

SUBSCRIBER.

Northampton, Mass., Feb., 1871.

REMARKS.—Bottling cider is a matter with which we have had no experience. Some of the "neighbors" say, that if a pint of alcohol is added to a thirty gallon barrel of cider, when the fermentation is carried only so far that the excessive sweetness of the cider is removed, that it will remain sound and sparkling for many months. If bottled in that condition, it would probably remain good for years.

Another plan is to add three pounds of raisins and a pint of mustard seed to a barrel, when in the condition above mentiond. We have recently

tasted some preserved in that way, which was very mild and excellent. We should think it ought to be bottled in a moderate temperature, and kept so afterwards.

Some of the cider bottled by person who make a business of it,—but who keep their own secrets as to how they do it,—is mild, and retains sufficient of its saccharine properties to render it very palatable. Such cider is always in demand and at remunerating prices.

CUTTING FEED FOR STOCK.

I think, notwithstanding all the theorizing which has taken place the past few years, it is still an open question whether it will pay to cut feed for stock, as an invariable rule. I acknowledge that I fail to see any good reason for cutting feed, that an animal will consume economically, thoroughly masticate and well digest. Our theorists, I know, tell us that the process of digestion is rendered less laborious by the operation; but this argument lacks weight we think, especially in the case of the cow or growing animal, who may truly be said to have no other business on hand than to eat and digest its food. We must not confound this with the process of steaming, which now seems to be coming quite into vogue, and of course which cannot be properly performed with uncut fodder.

How is it with the higher order of animals? Do we insist that our own food shall be thoroughly "hashed" for us previous to partaking of it? Is not the system as well satisfied with food unprepared in this way, leaving mastication to be performed by us in the act of eating? Perhaps this is a homely comparison; but does it not prove the truthfulness of our position? I know that bare assertions, unsupported by good proofs, usually have but little weight.

I was prompted to make these suggestions by reading the article in the FARMER of the 28th ult., on this subject, in which a correspondent says, "I fed thirty cows two winters on cut feed, and then gave it up, as I could see no reason why hay would go any farther cut than uncut." We have good reason to suppose that if this gentleman had found it to his profit, he would have continued to cut his hay; and it seems to me as though his practice was worth at least as much as our theorizing in this matter. But as stated at the outset, I look upon this as one of the undecided questions, and hope it will receive proper ventilation through the FARMER.

Salisbury, Conn., 1871.

W. J. PETTEE.

AMOUNT OF LUMBER IN A LOG.

Before leaving my father's house in the Green Mountain State, I took much pleasure in reading the FARMER, after a hard day's work, and its occasional visits to this place are heartily welcomed. Since coming West I have been engaged in the lumber business, and will therefore attempt a reply to the inquiry in the FARMER of January 14, as to the amount of lumber in a log sixteen feet long and twenty-four inches in diameter. That depends in a great degree on the size of lumber manufactured from the log. We have to allow one-quarter of an inch waste for the width of saw every time it passes through the log. We would refer the inquirer to the table, "Logs reduced to Inch Board Measure," found in "Scribner's Ready Reckoner." The table shows that a log sixteen feet long, and twenty-four inches in diameter, contains, if sawed into inch boards, four hundred and four feet of lumber. The table has been computed from accurately drawn diagrams for each and every diameter of logs from twelve inches to forty-four, and the exact width of each board taken, after being squared

by taking off the wane edge, and the contents reckoned up for every log, so that it is mathematically certain that the true contents is there given.

T. C. DRIGES.

Kansas City, Mo., Jan. 23, 1871.

A log sixteen feet long and two feet in diameter, will make but 50.21 cubic feet or 39.50 solid feet of lumber.

J. O. D.

Fayette, Vt., Jan., 1871.

EPIZOOTIC APHTHA.

The Commission appointed by the English Government to investigate this disease, which was so destructive in England, in 1867 and 8, have published their Report in a quarto volume of some 400 pages. It gives a history of all the known facts connected with the disease, and contains a large number of colored plates representing the disease in its various stages, as seen on the lips, tongue, roof of the mouth, throat, oesophagus, the coats of the several stomachs, the small intestines, the large intestines, the bag and feet. The ulcerations or aphthous sores are chiefly confined to the mucous membranes lining the mouth and internal cavities, and are sometimes very extensive and severe, and accompanied with a fever of the typhus type.

There are also plates representing disease of the mucous membrane of the human intestines, in some forms of typhoid fever, much resembling this disease in cattle. The Report is an exhaustive treatise on the disease. The epidemic prevailing on this side of the Atlantic at the present time seems to be a milder form of the same disease. The volume, which I have had the privilege of seeing was sent by an English gentleman to his brother-in-law in this State.

J. R.

Concord, Mass., Feb., 1871.

DR. NICHOLS' RECEIPT FOR RAISING CORN.

If you would inform me where I could procure Dr. Nichols' receipt for raising corn you would gratify me.

E. F.

Rhode Island, 1871.

REMARKS.—We find among our notes of Dr. Nichols' Lecture at Manchester, recently, that he said "four cords of good manure, per acre, and a handful of fine bone and pure ashes in each hill would produce a good field of corn, other things being favorable."

Whether the above is what our correspondent alludes to or not, we cannot say.

HOUSING WHEELS.

I have a wagon that has been in use since 1830, and is a strong wagon now. All the repairs on the wood work that have been required are two spokes and one hub. The tire has been set twice on the hind wheels, and once on the fore ones. It has been hosed when not in use. If any one has an older wagon I should like to hear of it.

HORN AIL.

For the horn ail, or when an animal breathes hard or runs at the nose, I take soft soap and fine salt mix them together and rub it on between the horns, once in two days, three times.

E. ROLLINS.

Groveland, Mass., Jan. 24, 1871.

SICK AND DYING GEESE.

Can any one tell me what to do for my geese? The first symptom I notice is an unsteadiness when on their legs, which continues two or three days,

when they die. They eat well at the time, and have a warm, comfortable place.

W.

Westbrook, Mass., Jan. 29, 1871.

REMARKS.—Will some of our poultry friends reply to the foregoing inquiry.

PICKLOCK.

What am I to understand by the term picklock, in the reports of the wool market?

E. L. B.

East Calais, Vt., 1871.

REMARKS.—The best fleeces of the best lots; the "pick" of fleeces, not the pick of parts of fleeces, as the word pick-lock might be considered to imply.

AGRICULTURAL ITEMS.

—New York, which used to be the great wheat-growing State of the Union, now produces fourteen million bushels less than her people consume.

—Mr. Albert Berry of North Andover, has a horse affected with the cattle disease which is developing itself in the horse's feet, but not in the mouth.

—David Hinton, of Attleboro', Mass., had thirty-four chickens from four hens hatched this year previous to February 5.

—A citizen of West Fairlee, Vt., has surmounted his elegant new barn with a five hundred dollar model of a ship.

—The Southern States furnished their quota of peanuts last season as follows: Virginia, 400,000 bushels; Tennessee, 300,000 bushels, and Georgia and the Carolinas, from 153,000 to 2,000,000 bushels.

—Greenfield, Mass., has the reputation of doing as extensive a butter business as any town in New England, except St. Albans, Vt. She recently shipped to Boston in one day 38,500 pounds, and 400 pounds more arrived just a little too late to be sent in that lot.

—The strongest vegetable fibre known is the New Zealand flax. It has long, sword-like leaves, ten or twelve feet in length. It is used by the settlers for binding their sheaves, fastening their gates, tying up their horses, and in almost every possible way.

—Mr. C. G. Prindle, of Chittenden County, Vt., communicates to the *Country Gentleman* the results of experiments made to test the protection afforded to the ground by snow. A trial was made during the cold snap of January 23, 24, 25 and 26, when there was about four inches of snow on the ground, with old drifts by sides of fences, &c. The average temperature of the air above the surface of the ground was 13° below zero; four inches under the snow 19° above; and two feet under the drifts of 27° above.

THE FARMER'S FRIEND.—The *Boston Journal of Chemistry* is doing service to the farmers of New England by showing what special substances will act as fertilizers of crops, and about what they are worth when pure. We wish the *Journal* success in its beneficent efforts.

From the Boston Transcript.

THE SUGAR CAMP.

BY J. H. BOWS.

What time New England's hills of snow
Have felt the Southern breezes blow;

What time the sun begins to break
The bonds of ice-bound stream and lake;

When joyful earth is welcoming
To her embrace the early spring;

Then let us to the woodlands hie,
Ere sunrise gild the eastern sky;

For where yon hill-side slopes to meet
The river winding at its feet,

A thousand lofty maples yield
The sweets within their cells concealed,

And, as the bees are lured by flowers,
We haste to make the treasure ours.

Warm, sunny days, with nights of frost,
Are those we now desire the most.

Ah! then, at morn, what rare delight
To walk the fields that, yester-night,

With crusted snow were covered o'er,
Solid and white as a marble floor!

Such is the royal road by which,
O'er drift-screened rock and fence and ditch,

We to our cheerful task repair,
Beneath the maples brown and bare.

Now with our twirling bits we tap
The trees, and catch the flowing sap,—

More grateful to the taste than wine,—
In cedar pails or troughs of pine.

Then some sequestered nook is sought,
Where bark and branches interwrought,

Soon form the "sugar camp;" and near
At hand two forked stakes appear,

With transverse pole above a row
Of huge black boilers ranged below.

Here, when the evening shades descend,
Groups of young men and maidens tend

The blazing fires and round about,
In shifting circles, laugh and shout.

See how the vapors upward curl,
And their gray phantom shapes unfurl!

See the hot syrup foam and seethe,
As the fierce flames are stirred beneath!

Some from long ladles love to sip
The nectared sweetness with their lip;

While others, whom experience
Warns when the process should commence,

Pour out the syrup thick and dark,
In moulds of tin or birchen bark,

And view the cooling crystals meet
In lumps of sugar, crisp and sweet.

O, ye by heavy cares weighed down,
Mid dust and uproar of the town,

Lay for a time your burdens by,
When Spring with blithesome step draws nigh,

And to the woodlands haste,
To breathe a purer air, and taste

The sweets that Nature's chemists there
With subtle alchemy prepare.

For the New England Farmer.

WINDOW GARDENING FOR FEBRUARY.

The last and shortest of the winter months has now arrived, and we must stimulate our plants at least twice a week to increase their growth and beauty. They have had their season of rest; have concentrated their forces, and now with proper care are ready to bud and blossom and repay their cultivator for the many hours passed in their service.

A successful window garden cannot be enjoyed without close attention. The plants cannot be watered and cared for at one time, and then neglected for a week; but they demand a daily amount of time to be expended upon them. Every morning when the housework is finished, their wants must be attended to, and be sure to give them warm water. Do not let the ground become caked or dry, but stir it at least twice a week, when stimulants are added. We have given so many directions for these stimulants that it would seem needless to repeat them; but house plants will not flourish without their aid, unless the soil has been prepared by a florist and made very rich.

All parasites must be kept off. We find the "Grafton Fertilizer," a powder made from the gold bearing rocks of New Hampshire, a great preventive against their inroads. We have scattered it freely over all our tender plants just after they had been thoroughly sprinkled, and not an *aphis* or a red spider dares show itself. A wash made of aloes and saleratus, one ounce each to two quarts of warm water, is said to kill all intruders. The branches of the plants are to be dipped into the solution, and rinsed up and down in it; then dip the whole plant into pure warm water. One application of this remedy will often be enough; but if the parasites appear, try it again. The aloes can be procured at any country store. Pots and saucers must be washed, and general attention paid to the neatness of the stand of plants.

Ivies and all climbing plants will grow rapidly during this month; but take care not to stimulate their growth *too* much. Long, lanky stems, with leaves so far apart that they seem frightened at each other, are not very ornamental or graceful. The German ivy is too apt to string itself out, and the Madeira vine has a tendency that way.

The Mexican *Cobaea Scandens* is an attractive vine; it is quite an old plant, but we all know that it is not every new thing which is the most beautiful or the most desirable. Its cultivation has increased of late, on account of its rapid growth and its handsome bell-shaped flowers. It is a tender perennial, but is easily propagated from cuttings; and if the seeds are sown in this month, the plant will bloom the next autumn and winter. The seeds are large and flat, and should be planted edgewise. The flowers are full two inches

long, and will be of a green color at first, but change to a rich bluish purple, and bloom for a week or even more. The calyx is large, and the long stamens, seemingly growing at one side of it, give to the flower a grace and beauty all its own. The plant was named for a Spanish priest, Cobo.

Stock gilliflowers, and the old fashioned wall flowers, are great favorites of ours. Their brilliant flowers and sweet perfume make them in every way desirable. We always stow them away in a warm cellar until this month, then bring them up, trim off their awkward stalks, give them good plant food, sun-light and air, and by March they are the admiration of all. They will bear liquid manure twice a week.

My *Lantanas* are commencing to grow rapidly, and the buds are forming all over the fresh shoots. These plants thrive best in a sandy soil, and should be sparingly watered until late in January. They delight in fresh air, and their brilliant, changing colors,—yellow and orange, white, yellow and crimson, &c., sometimes to be seen on the same plant—make them always interesting, but their perfume does not charm us,—is rather disagreeable.

The *Azalia* is a favorite house plant. Its showy flowers covering its branches, make it very attractive. It flourishes best in a soil of light mould, sand and loam, well mixed,—two parts of loam, &c., to one part of sand. The roots are often injured by too frequent waterings before the buds are formed; but after their appearance, care should be taken not to let the soil become dry. During February and March, the *Azalia* is an object of great beauty.

Double Azalias have been produced, and their flowers are very handsome; but we have a preference for the old-fashioned single pink, and the pure, spotless white species.

The *Alatilon* will bloom this month, if it has plenty of air and water; but if the temperature is hot and dry, its lovely flower bells will droop and blast. It requires a sandy loam to blow in perfection, and when it has proper care, soil and temperature, it is as beautiful a parlor tree as one can desire to possess.

All roses, heliotropes and geraniums which were stored in the cellar, can now be reported, trimmed, and brought to light and air. If attended to in this month, they will be in full bloom by the first of April, or perhaps sooner. Roses must have a rich soil to blossom well, and old plants should be pruned with an unsparing hand. Cut close and plentifully, if you desire fine roses. The new method of growing them is to prune very near the ground, and to depend upon new, fresh shoots from the roots, for buds and flowers.

Many plants will require fresh soil at this season. We have had a general re-potting of our pets, and are sure that they will be greatly

improved by it. Their tender, fibrous roots become interlaced and entwined around the surface of the pot, and desire a larger space in which to spread themselves. Run a broad-bladed knife around the inner edge of the pot, turn it over on your hand, rap on the bottom of it; the ball of earth will slip out into your hand, and you can judge if it needs more room. You can also see if angle worms or the tiny white mites are destroying the vitality of the plants. If you detect the angle worms, pull them out with your fingers,—don't shrink from the touch of such a harmless bit of life. If the minute wrigglers are there, take out all the soil you can without disturbing the roots, and replace it with fresh earth, of which, if you are a good florist, you will have a bountiful supply stored away in the cellar for this very purpose, and in which to plant seeds, so as to obtain an early supply of flowers and vegetables. This fresh soil must be baked and added to the pots just a little bit warm. The soil that is infested with white worms can then be baked and used again. We always bake the earth we use for our plants or seed planting.

Cacti are indispensable in every window garden, on account of their gorgeous flowers. Uncouth, snaky, prickly-stemmed though they are, resisting all efforts to train them into any shapeliness or comeliness of form, and filling one's fingers with their sharp needles, still we plead for them. They can be put away on a shelf and not watered until this month commences, and then place them where the sun's hottest rays will fall upon them, and water plentifully. Soon their buds will appear, and in a few weeks they will rejoice you with the splendor of their huge scarlet chalice—tasseled with shaded violet tassels of glossiest silk, and at the bottom of their brilliant cups are seen rare shades of apple-green. The contrast of their colors are both rich and rare. No plant of delicate, graceful foliage can boast such coloring as the homely Cactus plant exhibits in its flowers. A single blossom lights up a whole room—is a picture in itself!

The *Crab Cactus* possesses most curiously shaped flowers, yet so brilliantly colored, and every tip of its peculiar leaves displays the

"Rare, consummate flower."

Cactus Flagelliformis and *Cactus Mallisoni* are very desirable for hanging baskets, or the pot in which they grow may be suspended by cords from the casement, and their snaky-shaped branches will be covered with bright waxy pink or crimson flowers.

We found a Cactus growing wild among the green fields of the Rocky Mountains last summer, and carried it safely home. It has not grown any, but as it still lives, we have hopes of its future. We brought two specimens, but the rarest, a turban-shaped variety, became too dry to be restored to life. Immense prickly pears, which belong to the species of

Cacti, are grown in the gardens at San Francisco and Oakland, and we were told that their fruit was eatable. The leaves were perfectly huge; nearly a foot long, and at least six or seven inches broad. We could imagine the sufferings of our soldiers in Mexico when forced to march through such chaparrals.

S. O. J.

MUCK AS AN ABSORBENT.

The Secretary of the East Turner, Me., Farmers' Club reports to the *Maine Farmer* the substance of a late talk on manures:—

C. Gilbert said that with many farmers one half of the manure is lost from lack of attention, and much of that which is first saved is lost by neglect and in the application. When allowed to ferment before applied much loss is sustained unless some ingredient is composted with it.

J. D. Gilbert said that his cattle were stabled nights in the summer, and littered with a sufficient quantity of partially dried muck to absorb and hold all the liquid. His hogs are kept in the cellar, and are supplied with liberal quantities of muck or loam which they work over, and soon convert into valuable manure. Enough absorbing material should be used to keep the apartment dry. Fowls if properly attended to will furnish a large amount of the most valuable fertilizing material. These droppings are very strong, and should be mixed with five or six times their bulk of pulverized muck, and allowed to slightly heat, when the heap should be worked over. A quart of this compost is sufficient for a hill of corn. He has realized astonishing results from its use. Ten head of cattle, with horse, hogs, hens, turkeys, &c., should make an ox-cart load of manure every two days on an average the year round.

L. Gilbert makes large quantities of valuable compost from the house slops, and from the deposits of the privy. An excavation is made in some convenient place near the house, and filled with muck and loam—muck is preferable—and all the suds and slops from the house are conducted on it, and allowed to filter through it, or dry up from the surface, the muck retaining the manurial properties of the slops, and allowing the pure water to pass away. Whenever any offensive odor from the surface is discovered, as will frequently be the case in hot weather, the compost is forked over, and all odors absorbed. Muck is one of the most powerful deodorizers in existence—dry earth, of which so much is said, is not to be compared with it. The privy is supplied with a liberal share of this deodorizing material from time to time, when needed, and a large pile of compost is realized therefrom. These preparations are the most valuable manures for the corn-hill of anything made on the farm. They never fail to produce the most satisfactory results.

A. G. Day had composted the solid droppings of his stock by forking over the heaps at the barn and mixing an equal quantity of pulverized muck, allowing the mass to remain under cover till the next fall. Comparative trials repeatedly made had proved this mixture more valuable, bulk for bulk, than the manure before being mixed. This testimony was corroborated by the experience of many other members of the club who had repeatedly tested the value of the same mixture.

Z. A. Gilbert believed the farmer who spends his labor to compost the solid manure while the liquid is running to waste, is not using his means to the best advantage. After this has been done, then the farmer may compost his solids with muck and make the operation pay largely.

S. Townsend said that muck was much lighter to handle than loam, and its absorbing power was much greater. In the absence of a barn cellar, he practiced putting muck or loam under his tie-up floor, and thus saves a portion of the urine.

THE DEATH OF A BUFFALO.

Whether it be that age causes animals to become reckless, or that their lengthened sojourn in the world has familiarized them with their strength, and imparted to them a knowledge of their powers of destruction, or that the lassitude resulting from their infirmities causes their tempers to become soured, I know not. But when the old bull buffalo has separated himself from the herd, and retired, as it were, into private life, he becomes most pugnacious, and fearlessly attacks all intruders. Fortunately his activity has deserted him at this soured portion of his existence, and but little exertion is necessary to avoid his onslaught. I once saw one of these hero-veterans die a natural death, an unusual occurrence, for their enemies are numerous, and always ready to attack them when in that weak state that precedes dissolution. Well, my hero was sitting on a mound, a setting fiery sun slowly dipped the western bounds of the landscape behind him, and made his huge outline loom doubly grand. Food had been scarce with me, and consequently I made a more than usually careful stalk to get within range; the game's position was such that I almost doubted the possibility of success, yet closer and closer, without causing any visible alarm, I advanced. At length, when I had decided that the range did not require lessening, I felt convinced that I had been seen, for the head and eyes were turned toward me; but no angry shake of the horns, paw of the ground or flash of the eye evinced hostility, and, moreover, the figure appeared to lessen with each respiration; and an air of incapacity for further exertion was indelibly stamped upon the veteran monarch of the prairie. My gun was for the moment forgotten, and I

gazed with wonder, and possibly with sorrow, at the apparent approach of death. By degrees the veteran's forelegs were placed farther and farther apart; rapidly diminishing strength instinctively compelled this method of supporting the towering figure; at length the body swayed, and, with a lurch like a foundering ship, rolled on its side, and life departed from the carcass at the same moment. Up to the termination of the career of the noble brute he had remained upon his limbs, defying decay with his last breath. With sorrow I looked upon the body, regretted that life had fled; although, at the same time, I had been drawn to the spot with the intention of executing the office in which I had been fore-stalled. Befitting was such a death to the greatest hero, succumbing only when nature refused to grant further support, yielding up the life and strength he had gloried in without a sigh of regret.—*All Round the World, by Capt. Parker Gilmore.*

ADVICE TO YOUNG BREEDERS.

The high prices occasionally realized by breeders of fine stock for a remarkable specimen, and the fine display often made at our annual fairs by careful and intelligent breeders, have the effect each year of inducing a new crop of novices to embark in the business. They purchase a few choice animals, at good round prices, being fully impressed with the importance of breeding only from the best, and with confidence expect to take rank at once among the most famous breeders of livestock.

But, alas for human hopes! the finely-bred animals that for generations have been accustomed to the care and attention of a *master* at the business, soon show signs of the change of condition, and the enthusiastic but ignorant proprietor becomes ashamed of his purchase. Or, if they are fortunate enough to escape evil consequences themselves by the change of ownership, their progeny, from lack of proper discrimination in coupling, fall far below the sanguine anticipations of the owner. The novice is disgusted. He thinks he has been swindled—that inferior stock has been palmed off on him (and perhaps it is true), or that this thing of fine-stock raising is all a humbug. He gives up the business, and his place is taken by another with like experiences and like results.

There is one lesson which, if well learned by the public generally, would prevent many of these disastrous failures, and it is simply this: If you have finely-bred stock, you must take care of it if you expect to make it profitable. Animals that have always had the best of care, whose progenitors for many generations have been carefully tended by skilful breeders and liberal feeders, will not endure the neglect and starvation to which our "scrub stock" have become inured. Take the finest cow from the

herd of Sheldon, King, or Spears, and subject her to the rough treatment common among our Western farmers for one year, and she would present but the ghost of her former self.

From various causes there is a constant tendency in all breeds of domestic animals to deteriorate; and how to counteract this tendency by proper care, judicious selection, and discriminate crossings, so that there shall be improvement instead of retrogression, must be the constant aim of him who would hope to succeed. In this matter of selection and crossing there is room for the exercise of the most enlightened judgment.

Those whose ambition or inclination would lead them to embark in this business should *start right*. Acquire first a knowledge of the general principles which underlie the science of breeding, and then study, critically, the history, habits, form, and disposition of the species of animals you design to breed. Have a plan—a well-defined ideal—and then, "hew to the line;" the very variability of all our domestic animals will be, in your skilful hands, the means of success. Go slow, and don't expect to reach the goal of your ambition at the first effort. If you have never read "Darwin's Variations of Animals and Plants under Domestication," buy, borrow or beg the book at once, and read it. It will be worth years of experience to you. Another book, invaluable for its incidental discussion of general principles, aside from its specialty, is "Harris on the Pig." The careful study of a few such books will save you many disappointments, and greatly assist you in acquiring that knowledge of the subject without which you cannot hope to succeed.

It should not be inferred that stock-raisers and farmers generally will not find it profitable to buy improved animals to cross upon the common stock of the country; on the contrary, it is chiefly owing to the fact that the product of the skilful breeder is constantly being sent out, that the common stock of our land is as good as we now find it; but the aim of this article is to impress upon those who design to make stock-breeding a special pursuit—

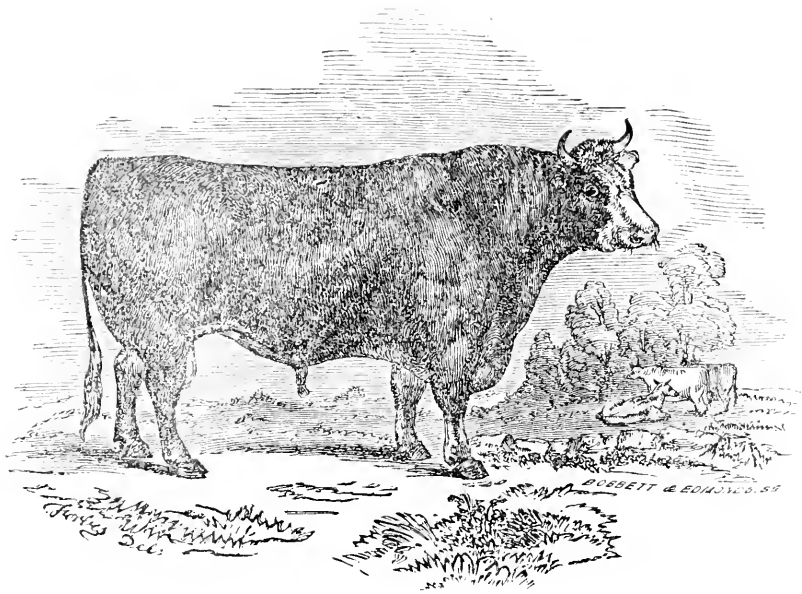
1st. That it is time and money wasted to buy a large lot of fine stock at fancy prices without having any previous knowledge of the business:

2nd. That the breeder should have a well-defined ideal, and labor patiently and perseveringly to accomplish his object:

3d. That a thorough knowledge of the general principles of breeding is essential to success:

4th. That care and attention must be given without stint, and that all kinds of stock usually do better if the eye of the owner is upon them every day; and

5th. That no man ever became eminent in any profession or business without patient labor and earnest application.—*National Live Stock Journal.*



HEREFORD BULL.

This breed of cattle take their name from the country in which they originated, though little is positively known as to their origin. More than a hundred and fifty years ago they were popular in England as beef cattle. Mr. Sanford Howard says that, in 1799, a Hereford ox girthing 12 feet and 4 inches and 7 feet high, was exhibited at Smithfield, and one girthing 10 feet, 4 inches, and 8 feet 11 inches long was sold for a hundred guineas. In speaking of the aptitude of the Herefords to fatten, and of the great amount of flesh they give in proportion to the bone and offal, Mr. Howard says, "on a well fed Hereford the choice or top pieces—back, loin and rumps—are of extraordinary thickness and weight as compared with other parts of the carcass. The fat and lean are so combined as to render the beef beautifully marbled." We have heard this opinion confirmed by our Boston butchers.

Their value as working oxen is also generally admitted. Mr. Howard says they have nearly the activity of the Devons, with much greater size than the average, and corresponding strength.

Many of the descriptions that we have seen of the Herefords admit their inferiority as milk-

ers. In this respect Mr. Howard believes they have been misrepresented. He says, "according to the testimony of persons who have had the best opportunity for comparison, keeping both Short-horns and Herefords, the latter give quite as much milk as the former in proportion to the food consumed, and generally milk of richer quality."

Mr. Allen, in speaking of the Hereford cattle bred by F. M. Stone, Guelph, Canada, says "some of the cows proved excellent milkers." He also says, that, from occasional marks among our native cattle, it is evident that Herefords were among the early importations to this country.

ABORTION IN COWS.—Dr. McClure furnished the *Practical Farrier* the following as a preventive of abortion:—"Powdered sulphate of iron, two drachms; powdered gentian root, half an ounce; mix and make one dose. This will be a powerful tonic, adding richness to the blood, strengthening the mucous surfaces and imparting health and strength to the whole system, thereby enabling the animal to carry her young to its full time. Good and generous feeding is also a preventive by itself, but better in conjunction with the above powder."

ON FEEDING STOCK.

THE NEW ENGLAND FARMER is published to accomplish two prime objects. First to obtain, through industry and economy, a comfortable subsistence for those employed upon it; and, secondly, to impart to our fellow-men sound and valuable information through its columns, in which correspondents and editors become teachers in turn, and thus good seed is sown broadcast over the land. It is in this light that we receive the queries and criticisms of our correspondent "*Hesperwood*," and find pleasure and instruction in being somewhat more explicit in speaking of the topics which he introduces, than is usual in the column of Extracts and Replies. He says:—

I am tempted to offer a few remarks relating to some of the subjects in the last number of the FARMER, and,

1. As to what you say in regard to cutting fodder, I still have doubts. I fed thirty cows for two winters on cut feed and then gave it up, and as yet I can see no reason why ten or twenty pounds of hay will go any farther when cut, than before. The meal or shorts added may as well be fed dry, or what is perhaps better, mixed with water till thin enough to be drank.

REPLY.—Can our correspondent see any reason why ten or twenty bushels of corn will go any farther, if ground into meal, than if fed whole? If he will examine the droppings of the cattle that ate the whole corn, the reason will be perfectly obvious. So if he would magnify the droppings of cattle fed on *uncut* hay, he would probably find similar reasons. But he may rejoin, that it is *natural* for our stock to feed on long hay. But is it so? Our cattle are not in a natural position. In a state of nature they roam at large, where the climate is sufficiently mild to furnish them food spontaneously throughout the year, and yield it to them in a fresh, juicy and tender condition. We have taken them from their native haunts, tied them by the neck, and housed them for a considerable portion of the year. They must now be fed and otherwise treated as exotics; and in doing this every economical method should be resorted to in order to make their food as near that which they enjoyed in a state of nature as we can: that is, as near young, short sweet grass, or other herbage. Cattle in pastures nearly always reject the old, long grasses, and graze that less than half an inch long in preference.

Much of the hay fed to winter stock is little better—principally by standing too long before it is harvested, and then by over-making—than that rejected by cattle in the pastures. In this view of the case alone, it would seem to be a matter of economy to cut long fodder. But we have never advocated the practice of cutting fodder and feeding it to the stock *in a dry state*. It may be economical to do so; but we have not tested it.

Every Effort Wastes, or Reduces.

The first fact to which we wish to call attention is, that "every effort of mind, every contraction of muscle, every act of secretion involves the combustion of a certain quantity of food and a loss to the animal economy." A man, making his dinner on dry corn, would become exhausted by the efforts at mastication, long before he had satisfied the demands of his appetite, even if he had plenty of sound teeth. If the corn were boiled, the effort would be less; if ground into meal, still less.

But this is not all the advantage of boiling and grinding. Another process must be considered,—that of digestion. It is not the *amount* eaten that sustains the animal economy, so much as it is the amount which is *digested* and becomes available to be used as substances of support.

The roots of plants do not feed upon *coarse* materials; their organization is so delicate that they require it in the form of water. Animals commence the work of reducing their food with their teeth, but the organs of the body whose duty it is to prepare the food to pass into the form of chyle and then to blood, could not take it in the form in which it leaves the teeth. Mastication by the teeth reduces the food in some degree, and then it is immediately moistened by the saliva, just as we would have you moisten the hay with water which has been cut by the machine.

Importance of perfect Digestion.

But this is not all. The organs referred to could not receive it even in this form. It has still another process to pass through before they can avail themselves of it,—and that is the process of *digestion*. In order to carry the food still farther towards a condition in which it can be converted into good blood, it passes into the stomach, and is there still further reduced by the action of the gastric juices.

Here it is reduced to a liquid, and "the power possessed by liquids and gases of penetrating and passing through membranes, is of the highest physiological importance; indeed it is one of the primary conditions of life. The little cell, the starting point of organization, is a closed bag—without an aperture. All its nourishment must therefore pass through this membranous wall. So also with the perfect animal body. Currents and tides of juices are constantly setting this way and that, through the membranous sides of vessels. The *liquified food is destined to pass into the blood*, but there is no open door or passage by which it can get there, and so it enters the circulating vessels by striking at once through their sides."

The result, then, is the same in animals and vegetables. In reducing manures to fine condition, before applying them to the soil, they pass through one of the processes of digestion, or preparation, for the plant; then, *moistened* in the soil, they pass through another, and if *heated*, would go through a third.

All Effort Expend Food.

We have said above, that all effort by the animal is sustained by food; it follows, therefore, that all effort *expend*s food. Why do we allow the fattening ox to rest? Certainly, so that he shall not expend his food on effort of any kind, but divert all the nutritive properties of the food to fat and flesh. If an ox chews thirty or forty pounds of dry hay in twenty-four hours, there must be a considerable effort in it, and whatever is saved by cutting that hay is clear gain, after deducting the cost of cutting.

The object of mastication of food is to comminute it, to break down its structure, and to render it more easily acted upon by the gastric juice, thus enabling the animal to appropriate its nutriment. Now, the more finely divided the food is, when subjected to the gastric juice, the more easily and rapidly it is digested. For when finely divided it presents many hundred times more surface to the action of the digesting fluid.

If fresh grass is fed to cattle, or any other succulent food, "the fibre is easily broken and reduced to a pulpy mass; but not so with dry, woody fibre, which must be broken and comminuted before the food contained in it is accessible for animal nutrition. This the animal seldom does, and especially the non-ruminating; therefore, it becomes highly necessary that we should assist the animal as much as possible, in extracting the nutriment contained in food." All food has to be ground up before it can be assimilated, and pass into the circulation of the animal; if we do not do it,

the animal must prepare it himself. The argument is, that we can do it by the aid of machinery cheaper than he can.

There are other points worthy of consideration. The following assertion will not be controverted, probably, by any one: "A small portion of food, which an animal can at once eat, digest, and make into its own bones, muscle, and fat, is worth more than a large quantity of some kind which it can only eat with difficulty and digest slowly."

Cells containing Nutriment must be Broken.

Much of the nutriment afforded to animals in what they eat, is contained in little sacks or globules. These globules vary in size, but are always very small. The globules constituting meal, flour and starch, we are informed by chemists, are incapable of affording any nourishment as animal food *until they are broken*. "No mechanical method of breaking or grinding is more than partially efficient. The most efficient means are by steaming. The fragments of the shells of these globules are not nutritive, but are indispensable to digestion, either from their distending the stomach, or from some other cause not understood. The economical preparation of all food containing globules or fecula, that is, starch or the green matter of plants, consists in perfectly breaking the shells of the globules and rendering the gummy matter contained in them soluble, and digestible, while the fragments of the shells are at the same time rendered more bulky, so as the more readily to fill the stomach.

Another Reason for Cutting Fodder.

It is said by high authority that hay cut fine affords much more nutriment than hay when fed uncut. The philosophy of this is, that hay contains woody fiber, which, notwithstanding its hardness, if only made soluble, is identical with starch; and as nutritious and fattening. Hence when hay is cut fine it is better masticated, absorbs more saliva, and of course it becomes more soluble in the animal's stomach; soaking the hay for 24 hours, wetting with scalding water or steaming it, will make it still more soluble.

Our constant practice in feeding 30 head of stock, is to cut all the fodder, hay, straw and corn fodder, add whatever grain is used in the form of meal, sprinkle, throw into a heap and let it remain 24 hours before feeding it

out. This is the course we commend to others. Scalding or steaming would undoubtedly be more efficacious, but the soaking mode is easy, cheap, and requires no extraordinary skill. The first outlay for steaming is somewhat expensive, and fuel is another and constant expense. On a farm where 30 or 40 head is kept, a horse-power would prove economical in other work besides that of cutting fodder; and a good one would last a lifetime. When the fodder is cut, and water and meal at hand, the labor of mixing is rapid and easy.

Such are some of the reasons why we have commended the practice of cutting fodder for stock. But if we had not these reasons to give, an every day experience in doing so, for many years, would satisfy us that it is decidedly an economical operation.

Some other interesting questions of "*Maple-wood*," will be referred to at another time.

AGRICULTURAL SOCIETIES.

WINDSOR COUNTY, VT.—*President*, Frederick Ellings; *Secretary* Henry Boynton, Woodstock. The location of annual fair is fixed at Woodstock for another period of five years.

EAST YARMOUTH, ME., CLUB.—*Pres.*, G. W. Sweetzer; *Sec.*, Alfred King.

MERRIMAC CO., N. H.—*Pres.*, Col. David M. Clough; *Sec.*, and *Treas.*, J. E. Lang, Concord.

MERIDITH, N. H., CLUB.—*Pres.*, J. S. Neal; *Sec.*, J. F. Wadleigh.

HAMPDEN, MASS.—*Pres.*, Phineas Stedman; *Sec.*, J. N. Bagg, West Springfield.

WEST HAMDEN, ME., CLUB.—*Pres.*, Richard Pat- tent; *Sec.*, J. C. York.

WEBSTER, ME., CLUB.—*Pres.*, W. T. Kirby; *Sec.*, J. W. Maxwell.

NORTH KENNEBEC SOCIETY, ME.—George E. Shores; *Sec.*, D. R. Wing, Waterville.

CENTRAL PISCATAQUIS, ME.—*Pres.*, A. M. Robinson; *Sec.*, Lyman Lee.

WEST WINTERPORT, ME., CLUB.—*Pres.*, W. Thompson; *Sec.*, John York.

EASTERN KENNEBEC SOCIETY, ME.—*Pres.*, A. H. Abbott; *Sec.*, H. Colburn, Windsor.

SHERMAN, ME., CLUB.—*Pres.*, J. W. Ambrose; *Sec.*, John Burnham.

NORTH KENNEBEC, EASTERN DIVISION, ME.—*Pres.*, W. E. Drummond; *Sec.*, H. L. Crosby.

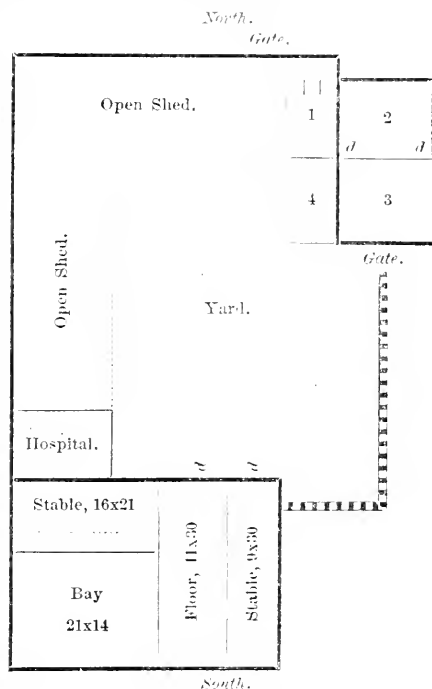
KNOX, ME., SOCIETY.—*Pres.*, T. Williams; *Sec.*, John W. Fogler.

FRAUDS ON WOOL GROWERS.—As sparks fly upward, wool growers seem of late doomed to trouble, perhaps on the principle of kicks when going down hill. The pelt dodge had hardly been played, when we are treated to a game under the guise of "calf and cow hair goods!" A Mr. Dobson, of Philadelphia, writes to the *Practical Farmer* that by the fraudulent representations of the importers, woolen goods have been introduced into this country under the name of hair and vegetable fibre, to the value of \$2,200,000 in gold, and cheating the government out of some two million dollars of revenue. The attention of Secretary Boutwell has been called to the subject.

FARM AND BARN OF JARVIS PRATT, READING, Vt.

During our visit to Vermont last fall, we called on Jarvis Pratt, who owns a farm partly in Reading and partly in Windsor, on the north side of Mill Brook, and perhaps half a mile from the valley, up a very steep ascent. This road, which terminates in his door-yard, is always kept in good repair, and as we tug up the hill the frequent bars which cross the road-bed remind us of going up a ladder.

But having made the ascent, we pause to look at the valley we have left below, and, through an opening in the opposite wall of the valley, to take a peep at the village of Fitchville and the mountains in the distance beyond. Before we go into the house we will take a look at the barn, where we see the owner and his son storing away a load of corn. Of the barn, sheds, stable and yard we took the following sketch:



EXPLANATION.—The barn is 42 by 50 feet; posts 14 feet; bay sunk into the basement or cellar six feet. The western shed, including the Hospital, extends north from the barn 66 feet; and the north shed, including stable for three horses, 1' is 44 feet long. The posts of the sheds are 13 feet. The open part is 7 feet high, leaving roomy scaffolds for hay, &c. The east end of north shed connects with a building 16 by 24, which is used as a carriage-house (2); and as an open shed, (3) for wagons and tools. The large dotted lines indicate a very heavy wall, quite high on the south side, where the land falls off suddenly. On the side of this wall next to the yard, and forming a part of it, is a

broad walk of flat stones, elevated above the surface of the yard, on which the barn can be reached dry shod, when the yard is muddy. There is also access to the barn, under cover, through carriage-house, horse-stable, sheds and hospital. As there is only a driveway unsheltered between the carriage-house and the woodshed attached to the dwelling, the walk from the kitchen to the cow stable may be made under cover, with the exception of some twenty feet. No. 4 is the hen-house.

These buildings were put into their present form some ten years ago; previous to which the cattle were stabled in the cellar. From his long experience with a basement stable—though his was a very open one—Mr. Pratt is satisfied that stock does better entirely above ground, and little use is now made of the cellar except for keeping manure. A part of the western open shed is divided by movable feeding racks into apartments, as desired, for sheep and lambs.

The next thing that we notice is the neatness of everything about the premises,—every stick in the wood pile, every hoe in the tool-shed, being “ranked and sized” with military precision. This order and system can hardly be ascribed to an ambition on the part of the owner to excite the admiration of the passer-by, for none are expected on this mountain shelf; nor to the fact that he runs a small farm, for his fences include over 170 acres,—every corner of which, as well as every pile of stones in his fields, some of which are rods in circumference, manifest the same all-pervading method. Less orderly farmers sometimes justify the contrast between their own and Mr. Pratt's premises, by saying they cannot afford to spend time as he does in “fussing.” Perhaps not. But as “the proof of the pudding is in eating,” let us inquire what has been the result of his system of farming.

We remember when, at the age of less than eighteen, by the death of his father, a family of five individuals looked to him for care and advice. His mother was in feeble health, and from the long sickness of his father all were in destitute circumstances. With the assistance of friends, he obtained places in other families for all of them, and indentured himself with a neighboring farmer during the three years of his minority, for one hundred dollars in addition to clothing, &c.

The family thus provided for, he subsequently worked by the month or season, for several years, when, having saved a few hundred dollars, he bargained for the farm which included the buildings he now occupies, and perhaps one-half of the land he now owns. We remember, too, that when one of the neighbors heard of the purchase, he exclaimed, “What, that little Jarvis Pratt bought the Capt. Stearns farm!”—a remark that we feel justified in repeating, only as it may afford encouragement to other young men who may be regarded by their seniors as too “little” to buy a farm, because they may have been known ever since they were small!

Having bought his farm he succeeded not only in slicking up his premises but in meeting his payments, and as his three boys and one daughter

became able to assist their parents, permanent improvements were commenced by which the whole farm is walled,—one hundred rods having been built in a single year; an orchard of 150 trees of choice fruit has been set out, a statement in relation to which was published in the *FARMER* (Monthly, 1869, page 229,) by which it appeared that its income for 1868 was \$177; and recently something has been done in the line of

Underdraining.

Near his buildings there was a piece of land that was very wet and very rough; an eyesore to the owner and a laughing stock, or something worse, to the boys who had to mow it every year. Some hurricane had probably prostrated by the roots a forest of large trees that once grew on this land, for its surface was a succession of cradle-holes and hillocks. It was not exactly a swamp, but was so wet that little could be done with it by way of cultivation, especially in the spring. Some seventy-five rods of stone drain have let in the plough and harrow and now this is one of the smoothest, most beautiful and most productive fields on the farm.

He digs his ditches two feet wide and two feet deep and lays the stone so as to form a water course four inches wide by six inches deep, leaving the sides somewhat loose to admit water, and covers with flat stones, and then with soil. He has stone remarkably well adapted to this purpose; being granite in thin strata, or what we suppose is called gneiss, and is about equal to brick for ditch making. Mr. Pratt is very much pleased with his experiment in underdraining, which has been done mostly at odd jobs. He raised this year 500 baskets of corn, of a variety which he calls the sheep-tooth, a cross, as we understood, of a small early and a larger variety, of which he preserves the dried size of ears by careful selection. He is very particular in his selection of tools, especially of the plow, the proper form of which he regards of great importance.

EXTRACTS AND REPLIES.

OIL MEAL FOR HORSES.

Will you give your opinion about using oil meal for fattening a spirited driving horse, who will not easily gain flesh on corn meal? Will a horse fattened with it hold his flesh as well as if fed with corn or corn meal? Have heard it remarked that horses would easily gain with this fed to them, but if allowed to shrink could not be easily brought back again. Does it act as an astringent or is it laxative? SUBSCRIBER.

Bradford, Mass., Dec., 1870.

REMARKS.—We have had no experience in feeding oil meal to horses. We find the following in one of our exchanges:—

Many good horses devour large quantities of grain and hay, and still continue thin and poor; the food eaten is not properly assimilated. If the usual feed has been mixed grain and hay, nothing but a change will effect any desirable alteration in the appearance of the animal. In case oil meal

cannot be obtained readily, mingle a bushel of flax-seed with a bushel of barley, one of oats and another of Indian corn, and let it be ground into fine meal. This will be a fair proportion for all his feed. Or the meal, or the barley, oats and corn, in equal quantities, may first be procured, and one-fourth part of oil cake mingled with it when the meal is sprinkled on cut feed.

Feed two or three quarts of the mixture two or three times daily, mingled with a peck of cut hay and straw. If the horse will eat that greedily, let the quantity be gradually increased until he will eat four or six quarts at every feeding three times a day. But avoid the practice of allowing a horse to stand at a rack well filled with hay. In order to fatten a horse that has run down in flesh, the groom should be very particular to feed the animal no more than he will eat up clean and lick his manger for more.

We especially urge the attention of every stock feeder to the advice contained in the two last paragraphs. No errors in feeding is more common than those of giving too large quantities at once, and of adding new food to that which has been rejected. How would the reader like a badly boiled potato tied to his nose while partaking of his dinner, or the remains of dinner served on his plate at tea time. The scent of cattle, in certain directions, is as keen as that of a dog; and when hay has been breathed upon and turned over a few times, they will not eat it unless very hungry.

What cattle or horses leave should always be removed from before them, before being fed again, and when the meal is ended, crib or floor should be left clean. Especially so should this be the case with swine. It is an old saying that a horse will starve tied to the hay stack, even if the hay be of good quality.

STEAMING FOOD FOR CATTLE.

Are we to see on our small New England farms the steam boiler in as general use as the mower now is? "If so great a saving as one-half can be made in feeding stock, I should think some one would have found it out before," says a neighbor. If one-third can be saved, I think it is a gain too important to be lost, unless its cost puts it beyond our reach. I saw an account of a German who steamed his feed and fed it warm in cold weather, thus, as he said, effecting a considerable saving of food ordinarily used by the animal, in elevating the temperature of its food and water to that of its body.

Now, if any one has by a long and carefully conducted experiment, shown the utility of steaming, and is willing to give us its cost and its value in figures and facts, I should be very glad to hear him.

MEAL AND MEADOW HAY.

I have heard it remarked that the milk only pays for the grain consumed, leaving only the value of the manure to pay for the hay and use of the cows and labor,—not very lucrative business if this be so. Now, if it be true that meal is too highly concentrated food for milk cows, soon destroying their usefulness when freely fed to them, and that poor meadow hay is so innutritious that it is of itself utterly unfit for making milk, it seems highly desirable to combine the two articles. Indian meal fed dry increases the milk very little if any, it is said; but if it were fed in the form of gruel or pudding, would it not be one of the best articles for the purpose, that we can get?

FINE FUEL.

It is said that a cord of wood reduced to shavings will in a proper boiler, make more steam than if it were burnt whole. If this be so, why could not granulated fuel be employed for this purpose. This fuel is prepared from small trees and brush cut, at small cost, by a machine, into pieces only a few inches in length and dried under cover. As the cost of the fuel would be little more than the labor, perhaps it might serve the purpose better than wood or coal. I should like to know if it has ever been tried by any one, any where, for this purpose.

FAILURE OF PASTURES.

What are we to do for pasturing? If we are to increase the amount of pasture feed, or even maintain the present supply, something must be done. Already some are obliged to feed their cows on hay and grain during the whole of the year. Much of our land is too rocky to plough, and many are so inclined to produce brush and wood, and they are so valuable for this last named purpose, that little land is now cleared for pasturing, while the old pastures, which cannot be ploughed, are annually producing less. Shall we let all the land now devoted to woodland and much that has been used for pastures be devoted to producing fuel only, or is there some way in which at least a portion of it may be subdued to grass, so as to yield a greater profit?

DESTROYING BRUSH BY SHEEP.

If any one has tried to kill brush with sheep, by placing them upon the land in the spring,—the brush having been cut the previous fall,—in sufficient numbers to consume every sprout as soon as it starts, thus keeping them constantly succulent, and feeding grain to sustain the sheep, until the brush is killed out entirely, and the ground fully stocked with grass, I should be very glad to learn with what success and profit the operation has been attended. It seems to me that this must be the way to enlarge the area of our pastures, where the plough cannot go. C. F. HAYES.

Westford, Mass., Jan. 6, 1871.

REMARKS. — Our correspondent manifests a thoughtful, inquiring mind. His questions will stir other minds, and those probably who can answer some, at least, of his queries. Asking questions is said to be a Yankee's privilege; it certainly is everybody's privilege in these columns of Extracts and Replies. But how will the account balance unless about as many facts are stated as there are questions asked? Still we want the questions to bring out the facts. When asked to write for the paper, farmers sometimes say they have nothing to write about. These questions furnish topics or subjects for writing, which we hope will be improved.

FOOT AND MOUTH DISEASE.

I see that some of the readers of the FARMER are considerably alarmed about the foot disease in cattle. We have never had any cases in this town; but in the adjoining town of Compton it has been quite prevalent. I was conversing with a gentleman from that town, a few days since, who said that the best treatment was not to do anything for it. He said it was contagious, like the cow-pox, and would go through the whole herd, but would not injure the cattle any more than the above disease. Those that had used acids and other medicines had injured their herds much more than those that had done nothing. Give them good keeping and they would soon get over it.

Some years ago I had a disease given to my cattle by putting a stranger's horse in my barn. All my cattle were soon affected with sore mouths and frothing, and they were so low that they could eat nothing for several days. My horses as well as cattle had it. At first I feared they would starve. All I did for them was to open their mouths and put in a good handful of fine salt. It would make them almost crazy, at first, but in a little time they would seem better. The disease continued only about a week or ten days. Of course it took off some flesh, but I did not lose any of them.

Eaton, Conn., Jan. 13, 1871. HIRAM FRENCH.

HINTS ABOUT KILLING SWINE.

The rope for the hog's nose should be small and strong, and have a good sized iron ring to hold easily in the hand. Let the hog out of the pen, which is apt to be a hard place for a scuffle. Let him run. He will soon tire, and may be seized by a hind leg, the noose slipped over his snout, and laid upon his back ready for sticking. The blood may be drawn by an insertion of the knife a little before the front legs, directly down towards the spine. Any further cutting is not only useless, but injures the meat. At the great slaughter-houses, the victims are despatched by a single, effectual stab.

It is well to wash the hog before scalding. It saves time and rosin, to put the rosin into the hot water instead of dusting it over the bristles. An old, worn-up, round-cornered hoe, with a two-foot handle, is the best tool to take off bristles. After one end of the hog is well scalded, scrape it about clean while the other end is under the water. Don't forget that the animal heat must all be taken out of the meat before you salt it. Split the hog always through the ribs, and let him hang over night.

W. D. BROWN.

Concord, Mass., Jan., 1871.

COLORS OR UNCOLORED BUTTER.

Our cows are not of the pure Jersey stock, and as a consequence, butter made from them while fed with common winter feed is not "gilt-edged." We have never used carrots or anything else to color it until this fall. We have customers who have used our butter summer and winter for years, through all shades of color from dandelions to hay. Some were quite satisfied with the straw color of winter, others often referred to the beautiful Jersey butter found in Boston and Philadelphia.

Sometime this fall, but not until after our butter began to grow pale, we used annatto. Of course it was noticed. After several had used it a week or two, one gentleman inquired why his butter was of such an unusual color, remarking at the same time that he was unable to detect any difference in its taste. When told that it was colored, he said he had rather see good colored butter, but had a prejudice against any foreign substances in his food. As we make butter to suit our customers if possible, we have since then, by his request, given it to him uncolored.

Those of our customers who said so much about Jersey butter have, since learning that "gilt-edged," Jersey cow's butter and annatto were so nearly synonymous, preferred butter without color.

A new customer had never seen any but the colored butter until a week ago, when one pound of uncolored was sent with the other. This week there was none but uncolored. When the question was asked why the difference in the color, and the whole process was explained, the customer remarked that our butter had been nicer than any winter butter he ever saw before. They supposed we had real Jersey cows, but if it was annatto they had been eating they preferred the natural color.

All of our best customers refuse annatto, though not one of them has been able to detect anything in the taste differing from the uncolored butter.

If the consumers of fancy butter knew they were eating annatto how many of them would prefer its natural color? A.

January, 1871.

THE DODGE WHEAT.

I enclose a sample of the celebrated "Dodge Wheat" that has been raised in this section for several years with good success. It drew the first premium at the Washington County, Vt., Agricultural Society, as did also flour from the same.

Its history is as follows: a gentleman by the name of Dodge was travelling in Lowell, Vt., and selected a few heads from a nice field of wheat. By a judicious selection of seed he improved it very much. I have raised this wheat five years, always screening my seed with one of Hildreth's wheat screens. It has yielded as much as fifty bushels per acre. Some consider it as sure a crop as oats. It does not rust nor smut, and is not apt to lodge.

A. M. FOSTER.

Cabot, Vt., Jan. 9, 1871.

REMARKS.—Two very fine heads of bearded wheat, one six and the other seven inches in length, were received with the above, as well as specimens of the grain and flour.

ASCARIDES OR PIN WORMS IN HORSES.

What is the best remedy for worms in horses? Mine has what I suppose to be pin worms. At times he has a large number come away from him. When they leave him so freely is he not doing well? "SNIP."

East Otisfield, Me., Jan., 1871.

REMARKS.—We are inclined to think so, and should hesitate about attempting any great amount of doctoring. We have heard of instances in which these worms have been lessened by keeping the anus well lubricated with lard or other grease or oil, for several days. The worms breed at this point, not in the bowels, and if kept oily their increase is prevented. An injection of four ounces of aloes in one quart of whale or any common oil, with a common large syringe, every morning for five or six days, in connection with physic, is recommended by a correspondent of the *Country Gentleman*.

FOOT DISEASE IN CATTLE.

As there is much excitement in Massachusetts in relation to the foot disease in cattle, I deem it a duty to say that I have cured an ox troubled with the same disease by applying a strong solution of carbolic acid three times, then putting on hot tar once.

SOLON SUMNER.

Bristol, Vt., Jan., 1871.

REMARKS.—The disease which is now prevalent in Massachusetts is, we believe, something quite different from any known in this country previous to August last, and we hope the Epizootic Aplita has not as yet reached Bristol.

CREAM THAT COULD NOT BE CHURNED IN SUMMER.

In his reply to the question, What ails the cream? Mr. Bliss says he never knew of any trouble in the summer. I have. In 1838 and 1839 my father had a cow that, in the best of feed, gave thirty-six

quarts of milk a day, but he could not get four pounds of butter a week from her milk, and it took from one to two days to churn it at that. In 1867 I had a cow that came in in the spring, and in August one day's churning of her cream was not long enough to make the butter come. In these cases the trouble was with the cows. Hence I agree that good cows and good feed are necessary to make the butter come. o. n.

Wallingford, Vt., Jan. 12, 1871.

MOUTH AND THROAT DISEASE.—BRONCHITIS.

Last January, (Monthly FARMER, page 119) we published a statement of cases in Cheshire, Mass., of cows with a swelling of the neck, throat and tongue, accompanied with constant drooling. We are now informed that Mr. G. A. Carpenter and others of that section, have recently lost cows by the same disease.

This may be the disease described in veterinary books as bronchitis,—an inflammation of the wind-pipe, lungs, &c. Dr. McClure says the great trouble with this malady is the fact that it is not generally noticed until it becomes so bad that it is difficult to control. It is an irritation of the fauces of the mouth, throat, and sometimes lungs and chest, and is apt to affect a whole herd. He advises farmers whose stock may be exposed, to study and compare the sounds in the wind-pipe of well and diseased animals, so as to be able to detect the disease in its early stages. A slight rough, grating sound will first be perceived. In a week or so a slight husky cough, with weeping from the eyes, and a watery discharge from the inner corner of the nose will be perceived.

The treatment prescribed by Dr. McClure is as follows:—If the disease be discovered within forty-eight hours from the attack, take from four to five doses of the tincture of aconite root, twenty-five drops to a dose, and give one dose every four hours.

If there be uncertainty as to whether the disease has existed longer or shorter, to save time the aconite may be given along with the following powders, three times in the day: Powdered sulphate of iron, three drachms; powdered gentian root, half an ounce; powdered ginger root, half an ounce; powdered sulphate of soda, half an ounce; mix and make a drench, to be poured down the mouth out of a strong bottle. This medicine is to be continued (omitting the aconite after the fifth dose) till the animal is well, or looks brighter, and eats all it gets. If it be a milch cow, the usual quantity of milk will be given. In addition to the above medicines, give, once or twice daily, half an ounce of commercial sulphuric acid, largely diluted or mixed in half a bucket of cold water. In feeding, care should be taken not to give too much, so as to bring on dangerous indigestion.

PREPARING FODDER—FERTILIZERS—MUCK—TIME FOR SETTING OUT SHADE TREES.

I have lately subscribed for your paper, and I am well satisfied that I have made a good investment. I feel that I have lost a great amount of useful information by not subscribing for it before.

I am living at the present time on a farm of

twenty acres. This little farm is very pleasantly situated on the Charles river, and is owned by an uncle of mine.

I was much interested in reading an article on the best method of preparing fodder for stock, in the last number. I think I shall try cutting and steaming fodder for my stock on a small scale.

I read and hear a great deal said about fertilizers. I have used Bradley's Superphosphate, and seen it used on different kinds of land, and I am convinced that it works well on most all kinds of soil.

I consider muck worthless, except as it is used as an absorbent,—and I use a great deal of it for that.

Will you please inform me as to the best time for setting out shade trees, such as pine, maple and elm?

D. R. SPAULDING.

Dorver, Mass., Jan. 1, 1871.

REMARKS.—The exact time for transplanting trees is of less importance than the proper way of doing the work. Deciduous trees, or such as shed their foliage in the fall, will bear bad treatment better than evergreens. The roots of pine trees and other evergreens will not bear the sun or air near as well as the maple, elm, &c. Just as the new growth of evergreens is commencing, about the first of June in New England, is generally considered a favorable time to transplant them, while maple, &c., may be planted earlier. But do the work well, and not expose the roots to dry air or sun—take them up and set them out some rainy day or at night—and evergreens may be safely transplanted at almost any time.

SCARLET BOUVARDIA.

Will "S. O. J." have the kindness to give directions for the successful cultivation of the "scarlet Bouvardia," the kind of soil, temperature, and treatment. Though my plants are usually quite flourishing, and free from aphids, with this I have failed, but admire it so much when well grown, that I shall be glad to know the wherefore.

A CONSTANT READER.

REMARKS.—The following is S. O. J.'s reply:—

We have not always been successful in the culture of the Scarlet Bouvardia. It will not thrive in the dry, heated temperature of our common sitting rooms, but, like the verbena, requires a cool, moist atmosphere, and a rich, loamy soil with a mixture of sand, at least a quarter of the whole bulk of the soil. It is also, like the verbena, subject to the ravages of the *aphis*, which injure its growth and beauty. This season we had procured a fine variety, the *Bouvardia Elegans*, which is a "novelty," and has much larger clusters of flowers, of a brighter and clearer shade, and far handsomer than the species usually grown. In December, it was growing beautifully, the sandy, rich loam, and the cooler situation, were doing their work, and it had four beautiful clusters of buds beginning to show their rich scarlet tint. But they were covered with green flies in all stages of life. Their presence was not to be endured,—a warm water bath must be given them! So we prepared it, but the morning was chilly, our fingers were cold, and the result was, the bath was too warm for the health of the plant. All the green aphides were killed—so also were all the beautiful buds and leaves!

The plant still survives, and is now recovering from its hot bath. Not an aphid has dared to show its wings, and green leaves now promise a wealth of buds. We hope that "*Constant Reader*" will profit by our experience, and will give her plant a cool temperature, and a cool bath, and a rich, sandy home. If watered once a week with guano water, it will flourish more luxuriantly.

BARN OR WINTER ITCH.

Will you be so kind as to give me any information with regard to excessive itching among cattle in the winter, and also state some remedy for the same? My cattle are not lousy, though some of them seem to suffer as much from constant itching as if they were. Any information regarding the matter, either from you, or your numerous contributors, through the columns of the *NEW ENGLAND FARMER*, will be thankfully received.

ALBERT HARRIS.

Hudson, N. H., Jan. 22, 1871.

REMARKS.—Sailors confined to a diet of salt meat and dry bread are often troubled with scurvy. It is possible that the change from green feed and pure air of our mountain pastures to dry hay, close confinement and bad, perhaps damp, air of stables tends to produce in cattle a disease somewhat similar. A disease among stock known as the Barn Itch is not uncommon, but its cause is not well understood. If it is produced as the scurvy among sailors is produced, then potatoes or other roots, or even browse, might be beneficial. But if the disease is of animal origin, as the itch in man, an ointment of sulphur may give relief. Take lard or any soft grease and stir in sulphur till it is quite thick, and anoint the parts affected. In some cases the grease, alone, applied after rubbing the affected part till the surface is smooth, has proved beneficial.

FODDER CORN FOR WINTER USE.

Would you advise a young farmer, keeping a small dairy, to plant a few acres of sweet corn, as fodder corn for winter use? If so what is the best variety to plant, and where can it be obtained, and at what price? At what time in the season should it be planted, and how should the ground be prepared, and how much seed per acre is necessary?

Fairlee, Vt., Jan. 10, 1871. A. W. PAINE.

REMARKS.—Cornstalks are so difficult to cure that we should not advise you to grow any such quantity as you name at first. Sweet corn, suitable for sowing for fodder, may be bought in Boston at \$3 to \$5 per bushel. But why not save your own seed, or use ordinary corn? If sown in drills three and one-half feet apart, two bushels are enough for an acre. The land should be rich and in good order, and a small patch will produce much fodder. Corn is often sown too thick and cut too green. It is usually sown in the spring soon after planting field corn. Last year the subject was pretty fully discussed in the *FARMER*, with directions for curing fodder corn for winter use, &c.

PLOUGHING IN MANURE.

I desire to endorse publicly the remarks of C. F. Lincoln, Woodstock, Vt., on the application of manure. In nine cases in ten I think manure should

be covered by a shallow furrow, at the time of applying the manure. Very wet land forms an exception to this general rule. Were we certain of a wet season, like those of 1868 and 1869 in this section, the harrow might be used instead of the plough, but in seasons like the past, manure not ploughed in dries up, unless the manure is well rotted and fine when harrowed in. When the land on which manure is ploughed in with a shallow furrow is next ploughed, it should be ploughed deep.

Plymouth, N. H., Jan., 1871.

VERMONT DAIRYMEN'S ASSOCIATION.

BURLINGTON, THURSDAY, JAN. 19, 1871.

Mr. T. D. Curtis, of Utica, N. Y., read a paper on "*The Needs of the Dairy.*"

Prefacing his remarks with a few words on the necessity for co-operation without jealousy among workers over the country, and of the proper combination of practice and theory, Mr. Curtis spoke of the growing necessity for skilled labor and educated laborers on the farms of the country, for more brain and less muscle.

He deprecated the hasty spirit of speculation which has so much ruled the dairy interest hitherto. That which is best for the future is best for the present; cheap factories and dairy houses should be abandoned,—they were well enough for the first experiments, but now fail to realize the best results. Too little attention was given to preservation of proper temperature; and old factories can never make the best cheese until rebuilt. You Vermonters should take advantage of our experience. One great drawback in factory system is in credited number of pounds of milk—if it should be in proportion to value of milk, quality is rarely taken into consideration, and some remedy should be devised. At last convention of Am. Dairymen's Association, a committee was appointed to investigate the matter.

Thorough and scientific experiments should be made to determine the value of different kinds of milk for cheese or for butter; the best conditions and methods of manufacture—of pressing and curing. Cheesemaking may be lifted to the rank of a science. I have suggested the establishment of a model experimental factory, not for immediate profit, but for knowledge.

Remet is one of the most important things in cheese making. Two of the most valuable papers ever presented to the Dairymen of the country, were by L. B. Arnold on "*Remet*," and by Prof. G. C. Caldwell, on "*Putrefactions and their application to manufacture of cheese*," in 1869, before the Am. Dairymen's Association.

From the first of these papers—which were published in the Report of the Vt. Dairymen's Association for 1870—Mr. Curtis gave some extracts. We cannot be too careful in keeping and using remets. Butcher's remets have been proved worth only one third those furnished by patrons of factories. Much experiment ought to be made in preparation of remets.

Prof. Caldwell's paper, from which he also quoted, shows how the action of remet is occasioned, by the development of fungus particles, called micrococci; cells. My opinion differs from his, that blue-mould cells and those of remet are in the beginning, the same; but a series of careful experiments in the matter is very essential.

Pure air and the cooling of the milk are essential for the best make of cheese, as has been abundantly proved. The home consumption of cheese should be increased, for it is healthful and economical food; we must not eat only what poor cheese won't

sell. The home market is of more consequence than the foreign, and should be carefully supplied and cultivated. The cost of cheese-making should be reduced, by employing the best methods and materials, by increasing the productiveness of the soil, and the value of cows,—and without always looking for immediate returns, either—and by increasing scientific knowledge on the subject. The farmer must have more and better learning; there is no position which requires so much as that of the future farmer. The farm cannot much longer do without book learning; and let your boys understand that farming is henceforth not to be mere backbreaking drudgery, for where can all the faculties and talents be so fully brought into play.

Mr. Harris Lewis of Herkimer county, N. Y., followed with a paper on

Cheese Making.

Vermont will always produce, with proper management, grasses suitable for the production of best cattle and cheese; so does Herkimer Co., and we can surely join in saying "All flesh is grass." We can both defy competition in any market in the world. I will try to present to you the system of management in our county; yet rules on paper are so arbitrary, I find I must lay my paper aside and rather give you a talk on the subject. You remember the story of Naaman the Syrian, in the Bible, what great expectations the man had, and his disgust at the simplicity of the remedy proposed. It may be a good deal so with you as to cheese-making. We have no secret. We take the evening and the morning mess for a single curd; start the water between the walls of the vat to cool the night's milk, and by the time milking is done the water space is full, and the agitator begins to be moved by the waste water. The point of cooling is important. I find by experiments that 65° is the most favorable point to which to reduce the evening's milk; it also needs agitation, airing, to free it from animal odor, the new-milk smell. We hold it at that heat till the morning's mess is all added; let the agitator continue at work before a fire is started to raise the temperature. Here is a vital point; adding the evening mess reduces the temperature, takes out the odor, and places it in a partial state of ripeness, as I may call it. When the morning milk is all added, the water is stopped, fire is started and the mercury raised to 84°. Here there is room for variation. If the weather is cold, and the mess small, set it a little above this heat; if the weather is hot, below. All these things must be determined by sound common sense. If you color, now is the time to add the coloring. I think cheese ought not to be colored, and never would color a pound, if consumers did not demand it. Put in just enough anatto to make a bright straw color. Now add the rennet, enough to perfectly coagulate in 40 or 50 minutes. If you design cheese for immediate use, add enough to coagulate in 30 minutes. When coagulation is perfect, when the curd has "come"—so that by dipping the finger in it, it will break clean, it is in the best condition to cut up. Would prefer if possible to cut it in blocks about half an inch cube. A moderate heat should be applied after the curd has settled a little below the whey, to raise it to 88 or 90 degrees. Do not stir it; in no way can a cheese be so completely "skimmed" as by stirring it up; do not move it while in a tender state. When firm enough to move, raise the heat to 98 or 100 degrees, still stirring as little as possible, and keep it there till sufficiently "cooked," as it is termed, which is to be judged of by taking a handful and squeezing it; when if the curd falls apart, it is done. We think it a better practice to draw off the whey, but many do not, but let it remain till acidity develops. We gather the curd at one end, raise the vat a little, and let the whey drain off. Formerly, at this stage, we salted and then put it

to press; but now we let it remain till a perceptible sourness appears, then put it in a hoop and press out most of the whey, and then run the curd through a mill; after which we salt it. The advantage is in better proportioning the salting. We use a pound of salt to 56 or 60 pounds of curd; early-made cheese requires a little more, and late made cheese a little less. Use the best of salt, and mix it thoroughly. After grinding and salting, it is best to spread and air it thoroughly; bring it to the temperature of the room, and then press it, as much or as little as you like.

This is all there is of Herkimer Co. cheese-making. If the cheese fail, it is in the curing, ten times to once in the making. The proper temperature for a curing room is 72°, by my experiments, and it should be an even temperature.

I think milk requires a certain degree of "ripeness" to make the most and the best of either butter or cheese. Milk just drawn will not make cheese; the exact method of determining the proper age is what I hope some day to see found out.

The matter of cream has given me much trouble. To save it, I have always skimmed it off to make "sweet butter" so called, and never had a dealer complain that my cheeses were "skim-milk" either. It must else go to the pig-pen, for you cannot mix it with the curd and have it stay.

I will lay down, in conclusion a few propositions intended to provoke thought and discussion; if they do, I shall have attained my end in coming here, for action on your part will certainly follow. 1st. Perfect neatness is absolutely necessary. 2d. Milk free from all impurity, taint, or odor, is essential. 3d. The greater the yield from a given quantity of milk, the better the quality. 4th. The successful cheese-maker must be qualified by nature, by study, and by practice. 5th. Unfailing success will only attend those who in proper time attend to the minutiae of their business.

Discussion followed, Messrs. Lewis and Curtis being questioned on some of the details of the process, the former holding stontly to his assertions that the temperature of the curing-room must be 72°, that the curd should be stirred as little as possible in the vat, and that the cream, if once risen on the milk, cannot be saved for the cheese—the divorce being final.

THURSDAY AFTERNOON.

Peter Collier, Professor of Chemistry in the University of Vermont and Agricultural College, read a scientific paper on "Chemistry as applied to Milk, Butter and Cheese," explaining the constituents of milk, their qualities and uses, the changes which take place in it, in the formation of butter and cheese, and showing the scientific and chemical reasons why this and that thing is done by the maker, and urging the necessity of more exact experiments by scientific and practical men, as to the effects of temperature, of rennets—now so much of a mystery—of different modes of getting milk and working the butter and cheese, &c.

The subject of cheese-making was then taken up, and Mr. Augustus Smith of Danby, addressed the Association at some length, setting forth his own practice and the conclusions to which he had come, which did not differ very much from those of Mr. Lewis, already reported. He also attached the greatest importance to proper curing, maintaining the room at an even temperature between 70 and 75 degrees. He would have the hand and eye edu-

cated by practice, and not rely entirely on the thermometer during the process of cheese-making, and considered it essential that the cheese-maker should have a housewife as interested as himself in the production of the best article. In one respect, his practice differed a little from that of Mr. Lewis; he cooled his milk in a very large and shallow pan, and never got enough cream to rise to make butter for his own family.

A discussion followed on the use of ice, which was deprecated by Messrs. Smith, Lewis and Curtis, and some other points of cheese-making, kept up till it began to grow dark, when the Association adjourned till evening.

EVENING.

The evening session was opened by a few remarks, at the request of the President, from Governor Stewart. The evening was spent in talk, mostly about fodder and soiling of cattle, and Mr. Lewis and one or two others were put through a pretty severe catechizing.

Mr. Smith, of Danby, had planted corn for fodder and obtained good results, when grass feed failed. Mr. Lewis supported his proposition that grass could be raised to cut for fodder and was better than corn. Mr. Parris of Fairfax, had obtained much better results from raising oats for fodder than corn.

Whether such a crop would pay, was discussed; and most agreed that a farmer must often raise crops that don't pay, in dollars and cents. Mr. A. Stowe of Westford, gave some details of an experiment in raising both corn and oats for fodder. That different crops did better in different places, must be conceded; and observation and experiment will tell each man which he can raise best, for the laws of nature are certain, and only by obeying them can the best results be reached, in any pursuit.

FRIDAY, Jan. 20.

A paper on "The Natural History of Cattle," by Prof. G. H. Perkins of the University of Vermont, was read by the Secretary. Describing some of the anatomical characteristics of cattle, and the process of digestion and nutrition, the writer spoke of the different animals used in different lands for milk, and of the different qualities of milk to be obtained from the cow. The Ayrshire cattle are held by authorities to make the best returns for the dairy upon the average,—the Jersey being too good for ordinary purposes. The great majority of dairy cows now are of no one breed, but are the result of crossing of many breeds. English and Dutch cattle were imported very early. The best judges say our dairy-stock is not improving; if so, it becomes an important question how to make a change in this respect. Whether to improve the native cows, or to use the high-bred imported races is yet to be decided; it will take diligent care and labor, but by it the dairy interests of the country may be more benefited perhaps than most will imagine.

A paper was then read by E. R. Towle of St. Albans, on the

Management of Cows.

Whether the breed be chosen with reference to object of dairy or not, the management is not always the best. Not so much attention has yet been paid to the proper care of pastures, to the raising of forage crops and other points. But few pastures will yield food enough for the whole season. Plenty of good water should always be supplied. Many details usually thought small, are really of great importance. As fall comes on, cows need more attention; it will be found easier to keep them in condition than to regain their lost flesh in the spring; there is little fear of their getting too fat. Much of the good results of the following season depends on how cattle are kept during the winter. If milk is expected in quantity in December, the cows should be carefully fed; but whether the increased care and expense will be profitable, is yet to be determined. Most farmers in our section feed but twice a day, while cows are dry, to save time.

As milk-time comes on again, the quality of food should be improved; if they have not extra food and care, decrease of milk will surely follow. There has been lately some improvement in managing cows, slow but sure; and when an improvement proves itself really such, it will be adopted.

A discussion followed on the question of stock. Mr. Lewis thought it highly important for the dairy farmer to raise his own cows; he discussed the qualities of different breeds, and said he had found grade Ayrshires to give the best results in butter and cheese for a given amount of food. He was raising both Ayrshires and Durhams; but thought Ayrshires crossed with Devons might make a still better breed. Mr. Lewis urged the value and importance of Farmers' Clubs.

Col. Mead of Randolph, said we must raise a breed that will be serviceable for beef when their milking is gone; and for himself he was satisfied that the short-horn was the best. We can if we will, breed a race of short-horns that shall be as well known as Vermont cattle, as Vermont sheep and horses are, and as peculiarly suited to our State and its needs.

Col. Mead of Randolph, moved that a vote of thanks be given to Messrs. Lewis and Curtis of New York, for their presence at this meeting, and the great help and service to the Vermont Dairy-men's Association which they have rendered. The motion was promptly and heartily seconded by Messrs. Douglas, Stone and Bliss, and was adopted by a rising vote of the whole assembly.

The Association then adjourned to meet at the call of the Executive committee. Although neither Governor Atwood of New York, nor Mr. Goodale of Maine were present, our correspondent, O. S. Bliss, Esq., writes to us that the meeting was "a splendid success."

—The October Report of the foot and mouth disease in Great Britain, named 3002 centres of infection. In 30 days thereafter the centres of malady had been lessened by 248. There would be stronger hope of the malady being on the wane, if the local authority was energetic in using preventive means in all parts of the country.

VT. BOARD OF AGRICULTURE.

Under an act passed by the Legislature of the State, the following gentlemen were nominated by the Governor, and confirmed by the Senate, as a Board of Agriculture, Mining and Statistics:—

Gov. John W. Stewart, *ex-officio*, *Pres.*; James B. Angell, *ex-officio*, *ex-Gov.*; F. Holbrook, N. B. Safford, C. H. Heath, A. B. Halbert, P. W. Hyde, Z. E. Jameson.

Agreeably to a call of the Governor, the members of the Board met at Burlington, Jan. 19, for the choice of Secretary, for the completion of the organization, and preparation for its work. Hon. P. W. Hyde and Hon. C. H. Heath of the First Congressional District; N. B. Safford, Esq., of the Second District; and Hon. A. B. Halbert and Z. E. Jameson, Esq., of the Third District, together with the Governor and President Angell, *ex-officio*, were present, being all the members except Gov. Holbrook, who declines to serve upon the Board. The Board made choice of Prof. Peter Collier, of the University and State Agricultural College, as their Secretary.

The history of the Boards of Agriculture in other States has shown that their efficiency depends on the Secretary. He is the managing and working agent of the Board. He should be not only a worker himself, but one that has the knack of setting others at work and of keeping them at it. If he has "other fish to fry," the agricultural trout is apt to be poorly served. If he has other offices to fill, or other business to transact, or is elected because he is somebody's friend that must be provided for, the drudgery of Secretaryship is likely to be neglected, or postponed till the next year or even later, as in the case of the Board of New York, and some other States.

The gentleman elected Secretary of the Vermont Board of Agriculture is Professor of Chemistry in the Agricultural College at Burlington, and the *Free Press*, of that city, in congratulating the Board on securing his services says:—

Prof. Collier has very fine qualifications for the position. He is practically as well as scientifically familiar with agricultural affairs, as those who have heard the part taken by him in the discussions of the Dairymen's Association have perceived. He has practical as well as scientific knowledge of mining. He is, in fact, thoroughly informed in most of the practical sciences, and has an acquaintance with gentlemen engaged in investigations such as the Board is expected to pursue, which cannot fail to be of high value to the Board. He is a young man, and will bring to his position enthusiastic interest in the work of the Board, and in the welfare of the State.

VERMONT STATE AGRICULTURAL SOCIETY.—At a meeting of the Directors of this Society at Bellows Falls, January 25, a Committee was appointed, as we learn from the *Times*, to locate the next State Fair, consisting of J. W. Colburn, of Springfield; John Gregory, of Northfield, and James A. Shedd, of Burlington. The competing places for the location of the Fair are Rutland and White River June-

tion. George Hammond, of Middlebury, and H. M. Hall, of Burke were elected Directors to fill the vacancies caused by the death of Henry Keyes and Edwin Hammond. Resolutions of respect for the memory of Edwin Hammond were adopted, and appropriate remarks made by Hon. John Gregory, Hon. Crosby Miller and Henry Clark.

VERMONT HORSE STOCK COMPANY.—The annual meeting of this Association was held at Bellows Falls, January 25. The *Times* says the amount of stock already subscribed is over \$28,000, and the location of the stock farm is to be decided upon during the next thirty days, and will be given to the County which subscribes the most stock, other things being equal. The following officers were chosen for the year ensuing:—

President—H. G. Root, of Bennington; *Vice Presidents*—Col. J. B. Mead, of Randolph; Harley M. Hall, of East Burke; *Secretary*—L. T. Tucker, of Royalton. *Treasurer*—Henry C. Horton, of Vergennes.

PRACTICAL SUGGESTIONS.

[Furnished for the NEW ENGLAND FARMER, by W. D. BROWN, Concord, Mass.]

—It is poor economy to reset thin wheel tires.

—Every farmer should have a brand to mark his cattle and tools. It will save its cost, often.

—A wagon shed, centrally located and easy of access, is a great convenience. It is an investment that will pay.

—A barn, located square up to the highway, like a city block, is worth about half price. No land is too valuable for buildings.

—Every prudent farmer will avail himself of the comparative leisure of winter, to put every vehicle and implement in complete repair.

—Don't live another year without a tool room. It will save hours of vexatious search for forks and shovels, that should be ready without a moment's delay.

—Two dollars a day for a farm hand, makes it important that he should have good tools to work with. They cost considerable. Insist that he use them for the purpose for which they are made.

—If new tools, unpainted, are soaked with raw, linseed oil, they will work easier, and last longer. Why don't manufacturers do it by the wholesale?

—It seems reasonable that a laboring horse should have a room to lie in at night, where he can turn over and shift about.

—If your colts are hard to get into the barn, after their daily exercise, let them find a few oats in their manger after coming in, and that trouble is over.

—The reason why the horse rubs off his blanket nights, is, the girth hurts him. Have it padded and looser, and fasten the blanket partly under the breast, and perhaps by a crupper.

—The elliptic springs on most freight wagons are too light, and often nearly close with the load.

Then the draft is positively increased, and the load liable to injury.

—Better pay a carpenter for making flights of stairs in the barn, where needed, than a doctor for mending bones broken by using ladders. Rule: things in daily use should be exactly adapted to the need.

AGRICULTURAL ITEMS.

—For pin worms in horses the usual remedy is to give aloes in the form of a ball. An injection of a weak solution of carbolic acid is resorted to quite often of late.

—A fatal disease called "the black-leg" is prevalent among cattle in Boone county, Iowa. The flesh becomes dark, the blood almost black in the veins, and the heart full of coagulated blood, when death ensues.

—The decrease in cultivated acres of wheat in Great Britain, according to the returns of 1870, is 5.3 per cent. Barley shows an increase of 5.2 per cent; cattle have increased 1.5 per cent., and sheep have decreased 4.40 per cent.

—A correspondent of the *Southern Cultivator* says that oxen may be rid of lice, by giving them two table-spoonfuls of sulphur mixed with salt, in the morning of a warm day, and then work them hard enough to keep them hot. By night all lice will be gone.

—A veterinarian correspondent of the *Western Farmer*, says that very tight warm horse stables are just the things for horse doctors, as they give them lots of business, and that the open barns of this Western country are the greatest enemies the veterinary practitioner has to contend with, for they continually rob him of his practice.

—Mr. S. C. Mason writes to the NEW ENGLAND FARMER that he has kept large herds of cattle, and has been troubled with a disease known as foot rot, which he has cured by putting air-slacked lime on the floor of stables, drive-ways to the barn, &c. The disorder to which he alludes is probably something different from the Epizootic Aphtha, but the use of lime is recommended in case of the latter disease.

—The Norristown, Pa., *Herald* furnishes the following remedy for chicken cholera:—One ounce of assafoetida; two table spoonfuls of cayenne pepper, pulverized; one peck wheat bran; one handful salt. Dissolve the assafoetida in a cup of hot water; mix it all together like thick mush; prepare the night before; put it in the trough every morning if bad, and continue until a final cure.

—X. A. Willard gives it as his opinion that hundreds of thousands of pounds of cheese have been lost during the past summer by the lack of attention to the temperature of curing rooms. He believes progress had been made during the past few years in this department, but much remains to be

accomplished, and the principal improvement must lie in securing a proper and uniform temperature of the cheese while curing.

AGRICULTURAL SOCIETIES.

CALEDONIA COUNTY, VT.—The annual meeting of the Caledonia County Agricultural Society, was held at St. Johnsbury, Vt., January 17th, Harley M. Hall, President, in the chair. The following officers were elected for the year ensuing:

President, Chas. A. Sylvester, of Barnet; *Vice Presidents*, Calvin Morrill, St. Johnsbury; Joshua Bonnis, Lyndon; *Secretaries*, L. W. Sanborn, Lyndonville; H. C. Hastings, N. M. Johnson, St. Johnsbury; Chas. D. Brainard, Danville; *Treasurer*, C. M. Stone, St. Johnsbury, together with an Executive Committee, consisting of one or more members from each town in the county. The meeting was fully attended. The last Annual Fair, 1870, was one of the Society's best, and a success financially and otherwise.

ADDISON COUNTY, VT.—Annual meeting at Middlebury, Jan. 18. Officers elected for 1871:—*Pres.*, Col. E. S. Stowell, of Cornwall; *Vice Pres.*, A. C. Harris, Shoreham; N. J. Allen, Ferrisburgh; *Sec.*, Albert Chapman, Middlebury; *Treas.*, N. P. Barbour, Middlebury. Also a Board of Town Managers. Resolutions of respect to the memory of Edwin Hammond, one of the founders and best friends of the Society were adopted.

WATERVILLE, ME., JERSEY CLUB.—*Pres.*, N. R. Boutelle; *Sec.*, William Dyer.

ANDROSCOGGIN COUNTY.—*Pres.*, Rufus Prince; *Sec.*, Nelson Horn. The next fair to be held in any town the trustees may designate.

WEST PENOBSCOT, ME.—*Pres.*, Stephen D. Jennings; *Sec.*, T. P. Batchelder, Kenduskeag.

SAGadahoc, ME.—*Pres.*, W. P. Walker; *Sec.*, G. A. Rogers, Topsham.

HORTICULTURAL PATENTS.—The *Kansas Farmer*, in noticing the petitions that have been circulated for signatures, asking Congress to include new vegetables, plants, roots, woods, &c., among the objects for patent rights, makes a practical test of the matter by anticipating the sort of notices, warnings and prohibitions which would be issued under the proposed enactment:

Know all Men by these Presents, that we, *The Kansas Farmer*, have had granted unto us by the Patent Office of these United States *Letters Patent*, for the term of twenty-eight years, upon a *Red Onion*, discovered, invented, propagated, grown, &c., by us, and all persons are forbidden, under the pains and penalties of the law, from buying, raising, or using, said Red Onion, unless obtained from us or our legally authorized agent.

[Signed]

KANSAS FARMER.

BEEKEEPING MATTERS.

The New York *Tribune* gives the following as the substance of what Mrs. A. Tupper said in reply to questions which were put to her at a late beekeepers' convention at Des Moines, Iowa:—

Bee-keeping is peculiarly adapted to woman, as she will give more attention to very essential details than man. Italian queens improve in this country. The test of an Italian queen is the peculiar mark imparted to her brood. Italian bees are the most industrious workers, starting in the morning an hour earlier than the black bee; they will make one-third more trips in a day than black bees. Heart's-ease or smartweed afforded the best

food for bees; when feed is scarce it would pay to furnish Alsike clover for food. Bees must have access to water. Raising queens in any but the natural way causes a depreciation of both brood and queens.

In dividing colonies, secure the young queen for the new hive. If to save honey is not the object, two hives can be made out of one colony each Summer. Do not divide before the first week in May, and not then unless the evenings are warm. Leave most of the young bees in the old hive. Avoid having workers enough in the new hive to fill the cells before the new queen begins to lay. Do the changing in the middle of a warm, sunny day, as then most of the stout, able-bodied stingers are absent in the fields.

Do not believe in forcing and feeding bees. Bees brought out prematurely by artificial means will not be strong, and never live to make honey. I winter my bees in a large, dry cellar, kept perfectly dark. Do not regulate the temperature. The cellar should be cold enough to keep the bees in a semi-torpid state. Put them in the cellar in December, and let them remain until Spring. The hives should have holes, that the bees may come out, so that they will not become restless and discontented. Take no extra pains to ventilate the cellar. Out of 100 colonies kept in this way, I do not have a pint of dead bees in the Spring. I prefer in-doors wintering to out-doors. One colony wintered out will consume 30 pounds of honey, while one wintered in-doors will eat $5\frac{1}{2}$ pounds. Bees wintered in-doors are as healthy in the Spring as when put in the cellar.

For the New England Farmer.

BUTTER MAKING.

Milk Shelves.—Saltpetre in Butter.—White Specks.—Care of Cream.—Churning.

I have been quite interested in the various articles on butter that have appeared in your paper, from time to time, especially in "Carrie's" description of her "milk closet," and in the discussion between "S. O. J." and O. S. Bliss on the use of saltpetre in butter.

Mr. Bliss objects to the use of saltpetre, but recommends the use of potash and soda in the preparation of annatto-ine. I have never used anything excepting salt in my butter, but do not see why saltpetre should be any more objectionable than potash and soda.

I would like to ask "S. O. J." if a small quantity of saltpetre, mixed with the cream, would have a tendency to prevent the sour milk from hardening and staying in the butter in white curdy specks, that require so much time and patience to remove. I think I hear some one exclaim, "there is no need of having white specks; I never do!" Perhaps *you* never do, but I do not happen to be so favored. I think that living in the Valley and buying cows

in the fall and selling again in the spring, as we do the most of our cows, we do not have as good a chance to select good butter cows as those who raise their own stock. My reason for thinking so is, that one winter, after we bought our winter stock, I hardly had a churning without white specks, and as soon as we sold a part of the cows I had no more trouble. I hope there are some of your numerous readers that can give me a remedy for white specks. If they will be so kind as to do so, I shall be greatly obliged.

I would like to give your readers a description of my milk rack, which for some reasons I like better than "Carrie's." One is, because I do not have to scald the milk, as it sets so high in the room that the cream will rise as well and as quick as it ought to in summer. In fact, I had rather make butter in winter, than in summer. And again, my rack can be taken down in spring and packed away until wanted for use in the fall. The side boards to my rack are seven feet in length and seventeen inches wide, with seven cleats on each, seven inches apart, commencing at the top, and leaving room underneath to set a table to use in straining and skimming the milk. The shelves are formed of two slats, two and a half inches by one, not standing edgewise, as they are not fastened, with the exception of the bottom one, which can be screwed in at each end, and easily removed. The top is covered with a wide board, with a two-inch strip nailed to each end and the front side, both for strength and looks. It will hold inside twenty-eight pans of milk, but I seldom use the two or three lower shelves for milk, as I do not get as good cream on milk set so low, as from that in the upper part of the room.

Not having as much room as I wished for milk, my husband took two strips of board, fifteen feet long, three inches wide and one and a quarter thick, and rested one end and the centre on the rack, the other end extended to the door-casing where it is supported by brackets. This is a very good shelf for a small mess of milk, as it is out of the way of dust and in no one's way.

I skim my cream into large pans and set it in the lower part of the rack, where the temperature is lower than where the milk sets, stirring it thoroughly at every addition of cream. I churn twice a week, and never churn any cream unless it has been skimmed twelve hours at least. Use Morse's churn,—thermometer broken, however,—and warm the cream in the churn while churning, by putting warm water, (ice water in summer) in the section for that purpose. When the cream begins to curdle, add when necessary, one cupful of orange carrot juice to twelve of butter. It will be ready to take from the churn in from fifteen to thirty minutes. I work all the buttermilk from it as I take it from the churn. I do not wash in winter, un-

less it is necessary, but always do in summer. Add about one pint of salt to this amount of butter, and find that amount of salt suits my customers better than less, and can always find a ready market at the highest market prices. Please correct and excuse all irregularities, as this is my first attempt at writing for the public eye.

A. M. H.

Hampshire County, Mass., Jan. 23, 1871.

For the New England Farmer.

BEST FEED FOR MILCH COWS.

Thanks to your Whately, Mass., correspondent for his compliment in the *FARMER* of Jan. 14. If he will give my article another careful reading, and compare it with his statement, he will see that he neither understood nor quoted my words correctly.

At the time I tried the experiment, I found that my cows were every day gaining in flesh, but gradually falling off in the quantity; the feed at this time being thirty-two pounds of Indian meal, rye bran, and wheat shorts,—all of them heavy feed,—in about equal parts. Suspecting that my feed was too concentrated and heavy and was producing flesh rather than milk, I resolved upon trying the experiment.

The idea that I intended to convey was, not that the shorts or the bran would weaken the cow, but that the flow of milk produced by the bran would tend to this result; or, in other words, the bran would be expended in increasing milk, rather than strength, and at the expense of the cow.

In order to be fully understood, I will here say that I am producing milk for the New York market, and for the sake of convenience, I shall suppose your correspondent to be making milk in winter.

Your correspondent says: "A friend to whom he has just read the article says that he has been feeding to his cows since the middle of October twelve pounds of shorts a day." "His cows have done well and are in prime condition." "One of them has laid on so much fat that she is in good condition for the shambles;" all of which I have no doubt is literally true, and his experience is just what mine would have been had I kept on the heavy feed.

He further says: I am feeding four cows with shorts, at the rate of ten quarts daily, to each, with good results so far. Still my cows are in fine condition." And well they may be. He then asks, "Will that amount affect the cows injuriously?" Certainly not, and he need not fear abortion or any other disease from that cause. He adds, "my neighbor does not complain of its weakening his cows with a feed of twelve pounds to each, although he thinks they walk as though they were a little stiff, which he attributes to the fact that he keeps them constantly in the stable, excepting that he lets them out just long enough to drink." I should expect that, with

that amount of heavy feed and no exercise they might be more stiff before spring.

With regard to cotton or linseed meal, I will say that I am preparing an article upon abortion which will answer that question according to the best of my knowledge and experience.

When I tried the experiment in question, I was feeding 32 pounds of Indian meal, wheat shorts and rye bran, in about equal parts, and this amount I fed twice a day; and in the experiment, I weighed out the same number of pounds of wheat bran (64 lbs.) and fed half at night and half in the morning with an increase of nine quarts a day in favor of the bran.

Wheat shorts, rye bran, linseed and cotton seed meal are all of them milk producing articles, but when fed with or without corn meal, are too heavy and concentrated to produce milk profitably; if fed with Indian meal will dry the milk and fatten the cow. Indian meal is not a milk producing article, but goes to the production of flesh. It may indeed increase the flow of milk for a short time in some cows, but not in others. There are some cows which seem to turn most of their food into milk and get poor. In such cases it is well to feed corn meal enough to keep good the flesh and strength of the animal, and cows that tend to flesh may be fed mostly on wheat bran, which will check the tendency to flesh and produce more milk.

I am now milking twelve cows, one of them a two-year-old heifer; one of them coming in in March, and one is farrow and has been in milk more than a year. I am now feeding a bushel and a half of wheat bran (ship stuff) and a peck of Indian meal twice a day, and making ten qts. of milk per cow, or 120 quarts a day.

I have become convinced that the cobs which will shell a bushel of corn are worth at least as much when ground with the corn as four quarts of meal without the cobs.

I am also convinced that when water can be had by bringing half a mile, it pays well to wet the meal over night if it can be kept without freezing, and that it would pay well to warm the water, if it could be conveniently done.

In answering communications of this kind, it would be a very great convenience if all correspondents would write over their own names. However, if any are afraid that their creditors will find out their whereabouts, they ought to be excused for resorting to a fictitious signature.

To carry on successfully the business of a farm, a great deal of common sense, thought and careful observation are required. No other profession would succeed as well as farming with so great a want of these desirable qualifications.

If every farmer who owns a cow and reads your valuable paper, would try various experiments, such as warming the water, cutting the

feed, mixing the meal with the cut feed, or feeding without mixing, and report the result to the FARMER, we might all obtain a great deal of most valuable information, for want of which, we all lose more than twice the amount of time and trouble of doing it.

Will not your readers set apart some of these long winter evenings in doing so and report the result of such experiments.

T. L. HART.

West Cornwall, Conn., Jan., 1871.

FARMERS' CLUBS.

A true Farmers' Club should consist of all the families residing in a small township, so far as they can be induced to attend it, even though only half their members should be present at any one meeting. It should limit speeches to ten minutes, excepting only those addresses or essays which eminently qualified persons are requested to specially prepare and read. It should have a President, ready and able to repress all ill-natured personalities, all irrelevant talk, and especially all straying into the forbidden regions of political or theological disputation. At each meeting the subject should be chosen for the next, and not less than four members pledged to make some observations thereon, with liberty to read them if unused to speaking in public. These having been heard, the subject should be open to discussion by all present, the humblest and youngest being specially encouraged to state any facts within their knowledge, which they deemed pertinent and cogent. Let every person present be thus incited to say something calculated to shed light on the subject, to say this in the fewest words possible, and with the utmost care not to annoy or offend others, and it is hardly possible that one evening per week devoted to these meetings should not be spent with equal pleasure and profit.

The chief end to be achieved through such meetings is a development of the faculty of observation and the habit of reflection. Too many of us pass through life, essentially blind and deaf to the wonders and glories manifest to clearer eyes all around us. The magnificent phenomena of the seasons, even the awakening of Nature from death to life in spring-time, make little impression on their senses, still less on their understanding. There are men who have passed forty times through a forest, and yet could not name, within half a dozen, the various species of trees which compose it; and so with everything else to which they are accustomed. They need even more than knowledge an intellectual awakening, and this they could hardly fail to receive from the discussions of an intelligent and earnest Farmers' Club.

A genuine and lively interest in their vocation is needed by many farmers, and by most farmers' sons. Too many of these regard their homesteads as a prison, in which they

must remain until some avenue of escape into the great world shall open before them. The farm to such is but the hollow log into which a bear crawls to wear out the rigors of winter and await the advent of spring. Too many of our boys fancy that they know too much for farmers, when in fact they know far too little. A good Farmers' Club, faithfully attended, would take this conceit out of them, inbuing them instead with a realizing sense of their ignorance and incompetency, and a hearty desire for practical wisdom.

Almost every good farmer or gardener will sometimes have choice seeds or grafts to spare, which he does not care or cannot expect to sell, and these being distributed to the Club, will not only increase its popularity, but give him a right to share when another surplus is in like manner distributed. If one has choice fruits to give away, the Club will afford him an excellent opportunity, but I would rather not attract persons to its meetings by a prospect of having their appetites thus gratified at other's expense.

The organization of a Farmers' Club is its chief difficulty. The larger number of those who ought to participate, usually prefer to stand back, not committing themselves to the effort until after its success has been assured. To obviate this embarrassment, let a paper be circulated for signatures, pledging each signer to attend the introductory meeting and bring at least a part of his family. When forty have signed such a call, success will be well-nigh assured.—*Horace Greeley.*

GAS LIME AS A FERTILIZER.—A writer in the *Scottish Farmer* says: "I believe that waste gas lime is equal in efficiency to fresh lime for most of the purposes aimed at in its use in farm land. I sold all the lime thus produced at the gas works in Forfarshire, for sixteen years, to several farmers, who uniformly expressed their satisfaction therewith. One very useful application of it was its mixture with the large pile of weeds and tangled roots of grass cleared off the fields annually. On being composed in this way, the lime gradually killed all the vitality of the weeds, and returned them to the land in the way of manure. It also served the purpose of opening up stiff clay soils, being first spread over the surface, and then ploughed down."

TO CLEANSE MUSTY BARRELS OR CASKS.—Put a quarter of a peck of unslacked lime in the bung hole of the barrel, into which pour a gallon or two of boiling water to slack the lime, then put in the bung and shake the cask well so that the contents of it will come in contact with all of the inside. Let it stand a day or two, after which rinse out well with plenty of cold water. If the barrel or cask is still musty, the same operation must be re-

peated, and a strip of cloth dipped into melted brimstone and hung down in the bung hole, set fire to and the bung slightly driven in.

SWEDISH SETTLERS IN MAINE.

A few days since we received a letter from a Swedish correspondent, making some inquiries relating to the Aroostook lands in Maine, and the Swedish settlers in that county. We have not at hand the data necessary to give a satisfactory answer to the inquiry as to the lands, further than to say that they are well adapted for cultivation, especially for grain, while the yield per acre compares favorably with other sections of the State. In the report of the Land Commissioner, just made to the Legislature, there is some information regarding the new colony and the State policy of settling her wild lands, which is of interest not only to our correspondent, but to all New England readers. A letter in the *Journal* gives the following summary:—

As the result of the Commissioner's labors, a colony of 114 Swedes—fifty-eight men, twenty women, and thirty-six children—have paid their own passage from Sweden and settled on the wild lands of Maine. Seven miles of road have been cut through the forest; one hundred and eighty acres of woods felled; one hundred acres hand-piled, burnt off and cleared ready for a crop, and twenty acres sowed to winter wheat and rye. Twenty-six dwelling houses and one public building have been built.

The Commissioner says in his report that this is the first successful attempt Maine has ever made to induce foreign immigration. It now remains for the Legislature to determine whether the result shall stand as an isolated, spasmodic effort, or be the commencement of a broad, systematic policy for peopling our State and realizing our latent wealth. Maine has a larger area of unsettled land than is included within the entire boundaries of Massachusetts; and of this the State yet owns 526,114 83 acres, of which 216,813 38 acres are settling lands. Of the Swedish immigration flowing to the United States, which in 1869 amounted to 35,000 souls, the Commissioner thinks Maine's fair quota is not less than 3,000 souls a year, which, if the common estimate of the cash value of the immigrant to the State be correct, will add more than \$1,000,000 per annum to our wealth, and is the prize which Maine should strive for and win. In securing Swedish immigration for ourselves, says the Commissioner, we shall be forced to compete at every step with the Western States; and to compete successfully we have only to follow out the liberal policy inaugurated by the Legislature of 1870, the chief measures of which are two: First, one hundred acres of land free to

every actual settler; second, advertising this fact broadcast over Sweden. With this policy Maine can shout "free homes for the homeless," as loud as the West; but Maine can never attract immigration to herself with the inducement of fifty cents, or any other sum, per acre for our lands, payable in work or any other way (her present policy), while the West, under the homestead law, offer one hundred and sixty acres of prairie land free.

The Commissioner recommends that an agent should be employed in Sweden to advertise our free farms and their advantages successfully, and that the entire enterprise at home and in Sweden should be under the direction and control of a central commission resident in Maine. If the measures the Commissioner recommends are adopted, he believes that in a few years at farthest the stream of Swedish immigration to Maine will be strong and broad enough to roll on of itself, and that not only all the public lands will be largely settled by Swedes, but they will spread over the entire State, become our farm hands, mill hands, house servants, sailors and fishermen, form an important working element among us, and add thousands to the population and millions to the wealth of Maine.

EYE-GLASSES.—The use of glasses becomes a necessity or convenience, at some time in their lives, to a large proportion of the people of civilized communities. If short-sighted, they require glasses in youth as well as in age, for distant vision. If possessing normal eyes, they need assistance, with advancing years, for seeing near objects. The comfort and safety of the eyes often depend on a proper selection of these auxiliaries. * * If any difficulty is met with in finding such glasses, the eye should be examined by some competent authority, to determine if any unusual combination of lenses is required, or ascertain the presence of disease if the difficulty in suiting the eyes arise from this source.—*Dr. H. W. Williams, in Atlantic Monthly.*

MUCK AND MARL.—The muck of our swamps supplies not only vegetable matter but a considerable amount of those valuable fertilizing materials which we purchase at a high price, in a more concentrated form, under the name of guanos and superphosphate. Muck and marl are sometimes found near each other, and should be used in connection whenever it is convenient. A compost made up of those materials, enriched by a small amount of excrementitious manure is a good fertilizer for all crops.—*Rural Carolinian.*

CLEANING WHEAT FROM CHEAT.—In the ordinary winnowing mills, put a board in the place of the riddle, by which means the wheat will be carried nearly off the screen board,

then by turning the fan right hand, the cheat being lighter, with the aid of a strong wind, will be drawn out at the second run of the grain. Wheat, run two or three times through the mill in this manner, will be cleaner of cheat, than if cleaned a half dozen times on the plan of screening out the cheat with the screen in the usual way.

For the New England Farmer.

THE NEW VOLUME.

The simple announcement of a new volume of the NEW ENGLAND FARMER is suggestive; it leads to thought upon the influence of the press, and the value and character of the agricultural branch of it.

The various ways of disseminating knowledge may be classified under three heads,—the School, the Club or Lyceum and the Press.

The first is for imparting the elements of science or laying the foundation of an education for future usefulness, and is designed for youth. The club is for more mature minds. Whether it is called debating society, lyceum or lecture, it means the same,—the gathering together of men for instruction. Before the art of printing was invented it was, next to the school, the chief means for the acquisition of knowledge, but it has lost its former influence, being superseded by the press.

The press has become the all-powerful engine for diffusing knowledge. In its daily, weekly, and monthly form it goes out to the people, reaching to those who cannot attend the school or club. It finds the farmer in the retired part of the most secluded town of his State; and it reaches with certainty the backwoods-man and pioneer in their lonely cabins; it accompanies the traveller as he journeys from country to country, and the mariner upon his long voyages; it enters every dwelling; it reaches the masses, and it does the work the school and club cannot do. It is difficult to realize all a free press is doing for Americans.

Every profession, every occupation of importance, has its journal or journals devoted to its interests. There are one hundred or more in the United States laboring for the advancement of its agriculture. They come to farmers to advise, to entreat, to warn and to encourage; they are companions, friends and counsellors. We find in them all that is said and done in the school, the club-room or lyceum; the thoughts and experience of the best minds of the country and age are collected and given upon their pages. All this, which we could not possibly otherwise obtain, comes with a regularity and certainty, that but half a century ago would have been truly astonishing, and all for an insignificant price.

At this time of the year, we are called upon to decide how many and which of these helps to good farming we will take. Among others, the NEW ENGLAND FARMER presents its claims for patronage; and here, Messrs. Editors,

pardon me, if I am somewhat personal, while I give a few reasons for supporting the NEW ENGLAND FARMER.

There are many small journals of limited circulation which introduce an agricultural department to insure the support of farmers, and which possessing considerable local interest are patronized by them. There is another class conducted by and in the interest of some agricultural warehouse, seed store or stock breeder. These being somewhat showy and pretentious, and published at low rates, obtain a handsome support. However many papers of this description may be taken, it is assumed that every thoroughly interested and progressive farmer desires at least one purely agricultural journal.

1. Now, a first class paper must be located at the centre of a large population, markets and news. There must also be a breadth of territory from which to derive a support; not every county, nor the valley of a small river, nor even a whole State will give the desired patronage. The expense of a first class journal are of a necessity very heavy, and they seem to increase yearly, so much being required of a journal that intends to hold a high rank. The FARMER certainly has the advantage of location; the interests of the New England States are identical. The paper need not be half filled with matter to please one section, that will not be attractive and useful to readers in other parts.

2. A pleasing, ready writer, a mere theorizer, or one of a profound scholastic turn of mind, is not the man to conduct our agricultural paper. He should be a man of broad views, possess a large share of common sense, and have had an extensive experience in the subjects whereof he writes.

3. Editors frequently, in pointing out the excellencies of their paper, lay great stress upon the amount of original matter it contains, and some papers appear to be made up almost entirely of editorials and correspondence. These are original in what sense? In language, not ideas; the latter are borrowed or gleaned from books and other journals,—they are articles re-written. Readers of such papers will notice a marked sameness, and a want of variety. Every idea being cast in one mould, comes to the reader in one and the same dress. A greater variety in style and ideas is secured where a fair share of selections are given, with the editorials and correspondence. When editors make a few judicious selections, giving the cream of some other journal, they greatly enrich their own, and if correspondents write readable articles, why should they not appear in the author's own words?

Not the least uninteresting part of a paper is the department to collect all items and facts sent in by correspondents, and answer their numerous questions. Few readers are aware of the labor necessary to put into a readable

form letters as they are usually written. They embrace a wide range of topics, and it would require a Faculty of Professors to give the necessary answers to all; but with a good share of patience and diligent research, the work can be done in a pretty satisfactory manner, either by the editor answering directly, or by correspondents replying to each other. A multitude of facts are thus given in a condensed form, and a sort of a debating society can be carried on in this department; and often the reader can derive more information in a single evening from two or three papers than from spending five times the time and labor in personally attending meetings.

4. The typographical appearance of a paper is always to be considered. Some of the largest and widely circulated weekly papers in the United States boast of their cheapness; and they are cheap if poor paper and worse printing are evidences. Farmers generally read in the evening, after a long day of hard labor, and with lights not the best. The body being tired, the eyes partake of its exhaustion; and under these circumstances, reading with the best of print is sufficiently trying. These wretchedly printed sheets for constant reading are dear at any price.

Such are some of the more striking characteristics of a first-class paper. Those purely agricultural are chiefly for adult minds, and their mission being to impart information, to discuss seriously grave subjects, can well afford to keep aloof from all catch-penny attractions.

The advantages arising from a division of labor and thought are seen in newspaper and periodical literature, as well as in other things. The idea that all of this kind of reading a family needs can be furnished in a single paper is fast becoming obsolete. There are papers expressly for children; papers that make a specialty of illustrations; papers devoted to politics, religion and fiction, and to every branch of literature, science, art and trade, that can possibly support a journal, and why will not farmers give preference to such as are devoted strictly to their occupation?

And now, kind reader, what think you of the FARMER? Does it come up to the requirements of a first-class journal? Are not its editors eminently practical men, and its correspondents, if not always graceful with the pen, men of experience and toil? Are not its expositions of science clear? Its advice judicious? Its news free from the sensational? Its market reports minute and reliable? Is it slow to detect error, timid in exposing fraud? Has it not always endeavored to inculcate progress, and the spirit of contentment in this restless, feverish land of ours? Judge for yourselves. If it meets your approbation give it your cordial support and help increase its usefulness by increasing its circulation and its contributions.

N. S. T.

Lawrence, Mass., Jan., 1871.

For the New England Farmer.

PRACTICAL SUGGESTIONS.

Neat Stock Profitable—Horses Expensive—Grass Growing Preferable to Grain Raising—Saving and Composting Manure—Muck, Plaster, Ashes, Lime and Salt—Raising Corn—Top Dressing—Sandy Acres.

There is no department in your valuable paper that I read with so much satisfaction as I do the communications of men of experience, who tell us how they manage their farms, make and apply the largest amount of manure to their land, grow satisfactory crops, and are yearly bringing up their fields to a better state of tilth and rendering them more productive. I have thought perhaps it might be acceptable to some of the readers of the FARMER if I wrote out for them some of my own experience, with a few of my own thoughts on the subject of farm culture.

I think it is best for me to keep all the stock my farm will sustain in a growing, thriving condition, and no more. Neat stock I consider the most profitable, such as oxen, cows and young stock. I put my cows to the best bulls in my neighborhood, and rely upon this means to improve and to replenish my stock, and to keep its numbers full.

A horse is a very useful animal, but expensive to keep, and unless there is regular work for him to do to earn a living I think he had better be dispensed with, so far as profit is concerned. Hogs I have discarded. I think them unprofitable, and very filthy creatures. I can make as much manure with my calves, during the summer till they are a year old, as I can during that time with the same number of hogs, commencing with them when they are sucking pigs.

I save all the manure my cattle make that I can,—most of it under cover,—using absorbents to take up the liquid part. I think it pays to gather other materials besides what naturally accumulate around the barn, to mix and compost with the droppings of the cattle.

I have a muck swamp that I draw largely upon for this purpose. It is composed mostly of vegetable matter, and is a great absorbent. Green manure is of a hot fiery nature, full of rich, light volatile gases, and it seems to be the very article to mix with the muck. They readily combine together, and make a first rate manure, such as my lean, hungry, sandy loam plough-lands need to render them productive. Indeed, I have become so well satisfied of the rich nature of this muck, that I have reserved one side of this muck bed about one and a half acres, that I have pared off and thoroughly drained for a mowing field. It produces yearly a large burden of fine English hay. It has been top-dressed with a compost composed of cattle manure and sand loam.

I have experimented with and used in a small way plaster, ashes, lime and salt, and think favorably of them all, on some kinds of land; but in order to realize the greatest

benefit from the use of them, I believe they should be incorporated with the compost heap, where they seem to combine favorably with the other materials of the heap, in a chemical way that fits them to be taken up as food by the growing plants,—making the whole heap richer and better by their addition.

I have grown the best crops of corn by spreading manure liberally on top of grass ground and ploughing it under just before planting time,—my land being a light, warm, sandy loam,—putting a little compost, or plaster and ashes, in the hill to give the corn an early start. But for the last few years, I have turned my attention more to growing grass, and use the largest share of my manure as a top-dressing for my mowing fields. The result is less labor and more hay, which enables me to keep more cattle. Consequently I grow less corn and other grain, and I think my fields are coming up to a better state of tilth than formerly.

I have a few acres of light, warm, sandy loam land, enclosed in my mowing fields, that produce a light crop of red-top grass yearly, which would produce good crops of corn and rye and clover if liberally manured; but as yet I have not that article to spare to them, and do justice to my other fields. I have bestowed much earnest thought upon them. As they are located, I can't very well turn them out to pasture, and I don't want to let them go back again to a forest. I have thoughts, Mr. Editor, of trying your clover and plaster system on them, that you recommended in the *FARMER* a few months ago; by turning them over with the plough soon after the grass is mown off in haying, let them summer fallow awhile, then reseed, and sow them to winter rye, putting on a top dressing of about three hundred weight an acre of plaster, three bushels of ashes, two bushels of salt, one cart-load of green manures, and one cart-load of good swamp muck well mixed and composted together, sowing it broadcast with the hand.

ROYAL SMITH.

Millington, Mass., Jan., 1871.

REMARKS.—We shall look with interest for an account of the proposed experiment.

GREEN FEED FOR COWS.

At the late Dairyman's Meeting in Utica, the subject of green feed for cows was discussed. Mr. Harris Lewis of Herkimer, urged upon dairyman the importance of taking a piece of land convenient to the barn, say one acre for every dozen cows, underdrain it, plow it deep, enrich it as every dairyman has the ability to enrich it, and early in the Spring seed it with a general assortment of such of our best grasses as mature about the same time. Land thus prepared and put in orchard grass will, as long as proper fertility is maintained, produce each season four cuttings, two feet high. It should

be cut just before or at least as soon as the blossoms appear. If left, even for a short time thereafter, it loses its great value as an inducer of a liberal flow of the best quality of milk. At the head of all forage plants for dairy cows, in connection with pasture, he placed lucern, provided the soil and culture are suited to its habits. The soil should be a deep, rich gravel, or sandy loam, naturally underdrained. As the roots strike down to the water, and prefer to go down eight or ten feet to reach it, no kind of artificial under-drainage would be of much service after one year. The roots would enter any drain where water could enter, and soon fill up the best-constructed artificial drain. Again, lucern will monopolize the soil upon which it grows, or soon quit it. If the soil is clean and well-prepared it may be sown broadcast (16 pounds per acre), and thus sown it can be fed with less labor than when put in drills. Corn he regards as worthless, its cost in most cases exceeding its actual value. First in importance is lucern; second, orchard grass; and third, common meadow grass, all of which should be fed before they pass out of blossom. In conclusion, he remarked that all forage plants are better for being wilted or partially dried. When this cannot be accomplished, on account of the weather, he had found it advantageous to feed in connection a small quantity of hay.

Mr. Farmington of Canada, had sown Dent corn very dense, and always with excellent results. So had Dr. Wight of Oneida; and Mr. Seymour remarked that he had used corn as a forage crop for many years, and never doubted that he had been well repaid. He had sown it broadcast, three or three and a half bushels of Western or Dent to the acre, and he doubted the possibility of profitably placing any other plant in its place. As for meadow and other grasses, he questioned if they would endure more than one or two croppings per annum.

Mr. Schermerhorn of Oneida, had realized benefit from soiling with corn. Fed to cows on a small lot, he so enriched the soil that he was able to get a large crop the second year, without more manure. Mr. Ruggles of New Jersey, said the people of the northern section of his State sow the eight-rowed yellow, and would not willingly give up its cultivation for forage. Mr. Chapman of Madison, sowed his first crop of corn for this purpose 30 years ago, and had kept up the good practice ever since, raising five consecutive crops on the same ground without manuring. If not allowed to ear—as it should not be—it does not exhaust the soil to any great degree. Experiments of his proved that cows deprived of corn fodder not only shrunk in their mess, but that less cheese was made from the same bulk.

Mr. Dick of Erie, had found that he could get more milk from sowed oats than from corn, but that the quality was inferior. Mr.

Platt of Clinton, knew two dairymen in his vicinity, having the same number of cows, whose bill of delivery of milk, on August 1, showed a difference of 3,500 pound. One of them fed his cows sowed corn after that period, and the other did not. The former, whose bill was the smaller on August 1, gained the 3,500 pounds and 500 more before September 19. He considered the experiment a definite one. Other testimony bearing in the same direction was given by various members, and finally, on motion of Mr. Arnold of Tompkins, it was "resolved (and this resolution was passed with scarcely a dissenting voice), that in the opinion of this Convention, corn is a valuable product for the dairy farm, and that we commend it as a forage crop."

RAISING PIGS.

A farmer in Holt County, Mo., favors me with a description of his piggery and his mode of feeding hogs. He is young in the business, but seems to have embarked in it with much spirit and energy. He says: "In 1860, I bought and tried to fatten 300 hogs. Gave them all the corn they would eat, broad wallowing pool, and free access to clear water. I sold them at 5½¢. per lb., net. I bought them too fat. The corn fed to them netted me 17 cents per bushel, while I sold the balance of my corn at the crib for 50 cents per bushel. This 'salted' me from hog feeding until October, 1869."

Without knowing the fact, I should suppose the trouble was not in buying them too fat, but in paying too much per lb. for them.

"In October, 1869," he continues, "I went into the business again. I bought 20 sows, and 60 pigs and shoats. During the winter, 60 pigs were born. In the spring I had not 80 left, all told! In March and April, 60 more were dropped, of which 30 remain—balance dead. Have had 80 pigs within six weeks—20 dead, and dying daily. I intend to try further. Will have 40 sows to drop their pigs next spring.

This seems bad luck, but I am glad he is not discouraged. When I first commenced to turn my attention to pigs, I had, though on a much smaller scale, quite as "bad luck." I had 3 sows that dropped their litters one night in the yard, and lost nearly every pig—as I deserved to do. I have now some 50 pigs, and by giving them careful attention, plenty appropriate food, with warm, dry and clean pens, I anticipate no trouble. The last three sows produced 30 pigs, and I saved every one. I know that it is a general impression that you cannot keep a large number of breeding sows on one farm; but I cannot see why, *provided* each sow gets as good treatment as she would if she was the only pig on the farm. If this cannot be done, then do not attempt to keep them, for, as a rule, farmers who keep only one or two sows, do not treat them any too well.

There is one thing that is very important: We should know exactly when we are to expect the arrival of the little ones, and make due provision for their comfort beforehand. Pigs are remarkably sensitive to cold winds. They must have warm, dry, well-ventilated quarters; and my rule is to have the pens cleaned out *every day*, just as regularly as we clean out the horse stable. Why should they not be? "It is too much trouble, and will not pay." This is a great mistake. In the first place, if done every day, it takes only a few minutes' time to remove the soiled litter and shake up the bed; and if it pays at all to raise pigs with the present average rate of mortality, it will certainly pay if we succeed in saving the entire litter. I am inclined to think that, taking the country through, from one-third to one-half of the pigs die—and this through sheer neglect and mismanagement. One of my neighbors, who is a very good farmer, and takes capital care of his cows, keeps his pigs in a pen covered at one end with some straw, thrown on rails. This is very well. Though open in front, it does afford *some* shelter. But the pen is built on the side of a building, and *all the rain from the roof comes pouring into the pen.* He "did not believe it paid to feed pigs any way," he said, and I presume he spoke from experience.—*J. Harris, in Am. Agriculturist.*

DOES SUBSOILING PAY?—In answering this question, the *Rural Carolinian*, among other things says:—

"Some soils will hold water like a pan, some, the water will percolate through and go out at the base of the hill. Not only the kind of soil, but the peculiarities of locality should influence our decision on this subject. There are localities where the surface soil has been exhausted, when eight or ten inches below, you may strike a soil as good or better than the original mold on the surface. Here, I say, by all means, subsoil, and not only subsoil, but bring a portion of the subsoil to the surface, if possible; but if you have two inches of soil and a pipe-clay substrata, subsoiling can do no good, for in a wet season it will hold too much water for the crop, without subsoiling. What you now want is thorough draining, close and deep, with main trunk as an outlet."

A HERKIMER DAIRYMAN.—The *Utica Herald* says that Nicholas Smith, of Herkimer county, N. Y., has made as high as 14,200 lbs. of cheese, shipping weight, in one year, from a herd of twenty cows. He makes his milk up at home, and sells for the highest prices paid in Herkimer market. He sells every fortnight, thus saving shrinkage. He also keeps the best cows and none but the best; and slops them a little in the spring and at times of drought, and does not overstock

his farm. His cows do not come in early, and he has juicy, early cut hay to feed them from the time of calving until they are turned to the pasture.

EXTRACTS AND REPLIES.

A BIG FARMERS' CLUB.

Brother farmers, we cannot do without our New England Farmer for many reasons; but I will mention only two,—its "Market Reports," and its "Extracts and Replies." Notwithstanding our hands are heavy and our pens not accustomed to writing "printer's copy," let us all meet, and not be bashful, in "Extracts and Replies," until the Farmer becomes the organ of a great New England Farmers' Club. Never mind the poor spelling and worse grammar. Let the editors do the finishing off, while we do the blocking out. I often see articles I would like to reply to, but not being a *writer*, I never have done so. I mean to, hereafter, and never mind the stamp, although it looks a little like begging notoriety, but it is information we are in pursuit of.

CHURNING CREAM.

A week or two ago a member of the Club wanted to know the reason his butter would not come. I have seen cream churned so fast when first put in the churn that the butter came, but being a little warm, it was dispersed instead of gathered. In such case, a lump of butter is required to form a nucleus for gathering the new particles. Cream should not be churned too rashly in gathering, nor in fact at any time.

COLORING BUTTER.

To color butter, have every fifth cow an Alderney grade, with plenty of meal. Corn and oats ground together make meal enough for my cows, as I have wintered a herd of cows on it with a little straw. It was not expensive wintering, either, costing \$10.50 per head for grain. I could not figure the value of the manure per ton of feed, as closely as some of our *oil meal* feeders can. My object was to get them through the winter in good condition for milking another season, and I succeeded tip top.

FILM ON EYE OF OX.

Having had considerable to do with cattle for a few years back, I have a good many remedies on hand which, having tried, I know are all right; and will close by giving a cure for a film on an ox's eye, caused by the lash or other injury. *Let it alone severely*, and I will warrant a cure, and your ox will not be churned too foolish every time you take a chew of tobacco.

I have written thus much with the mercury 16° below zero, *in the shade*. If it is worth using, use it; if not the sheet of paper is worth at the rate of three cents a pound, is n't it? B. T.

Addison County, Vt., Jan. 20, 1871.

REMARKS.—The new member from Addison will occupy one of the front seats in the Club-room, though it may look "like begging notoriety" to come forward to his place. Look at farmers' associations all over the country, see who do the talking and managing, and then tell us who are "begging notoriety!" Look at farmers' interests in legislatures and congresses, as contrasted with those of manufacturers, railroad companies, importers, &c., and tell who are there "begging notoriety;" who there do not "mind the stamps!"

Until farmers get rid of this chicken fear of "begging notoriety;" until they pluck up courage enough to manage their own clubs and societies, to write their own letters, and,—begging pardon of "B. T.,"—of signing them with their own names; to buy their own books; to make their own speeches; to choose their own officers, and to attend to their own interests,—let all complaints about politicians, monopolies, fast men and book farming "be reserved for a more appropriate occasion." The difference between "come, boys," and "go, boys," is understood on the farm; and the same difference will sometime be recognized in matters of "notoriety."

COMPOSTING MUCK.

I have had the past autumn quite a large amount of muck dug out, which lies in piles. I wish to know how I can compost it in the spring, so that it will be profitable to apply either as a top-dressing on dry, rather gravelly soil, or to ploughed ground, on which to sow some kind of a crop for fodder, as I find in this locality that raising stock and making butter are more profitable than raising corn.

In regard to compost, I frequently see statements comparing compost with stable manures, without giving us the least idea how the compost is made. I have heard men lecture an hour and use no more argument than they might have done in fifteen minutes. What we farmers want is practical information. We want to know what will enrich the soil at the least expense, not dissertations on the question whether we shall grow corn in preference to buying it, or any other special crop, as our location, soil, &c., will determine that. L.

Winchendon, Mass., Jan., 1871.

REMARKS.—There is probably full as much difference in the "muck" of different localities, as there is in the soil of different farms. The soil of the Miami valley in Ohio, has produced large crops of corn annually, without manure, for some sixty years in succession, with no perceptible diminution in fertility. Will all "soil" do that? Will the "soil" of your farm do it? Farmers recognize a difference between soils. They do not expect the same results from "soils" of hungry sand, loose gravel, light loam, heavy loam, clay, &c. But somehow there seems to be an impression that muck is muck, anyhow, and that what one man's muck does every man's muck ought to do.

Suppose that Mr. A has on his farm a sort of Miami valley muck,—a mass of decomposed vegetable matter, comparatively free from all noxious acids,—and his experiments convince him that "muck" is almost equal to barn yard manure. He publishes a statement to that effect, which induces farmer B to dig and haul a lot of his muck,—black sand, with but little vegetable matter. He fails to receive the promised benefit, becomes discouraged, and says hard things about agricultural papers and agricultural writers in general, and muck puffers in particular. He tries it in various ways, and *he* knows there is no virtue in "muck." Now, may not both these men be right in everything except in the use of the word *muck*? They applied that word or name to different things, and naturally enough arrived at different conclusions.

Hence it is necessary to come to some conclusion as to what the word "muck" means. Webster's opinion is that it means "a mass of decaying vegetable matter." Worcester says, "a substance, as dung, straw, &c., that is moist or in a fermenting state." In England the word is applied to green manure. And with the title "*Muck Book*," Mr. D. J. Browne published a book some thirty years ago which treats of all kinds of *manures*.

But if the farmers of New England were to make a dictionary, what would be their definition of "muck?" Would not the common idea be expressed by saying, "Any dark-colored substance found in low wet places." It may be brook sand, colored by the oxide of iron or some "sour stuff;" it may be earth washed from the surrounding hills, and mixed with a small amount of vegetable matter; it may be nearly pure vegetable matter, the remains of trees, water grass and other plants; or it may possibly be composed largely of the shells of minute aquatic animals.

However composted, therefore, different kinds of muck will operate differently when used as a fertilizer. Generally it is not advisable to apply crude muck directly to the soil. Farmers call it "sour." The books say it contains acids injurious to vegetation. Muck needs to be mixed with something that will neutralize these acids and put it in a condition to be "compared with manure."

Our correspondent asks how to do just this thing next spring with a lot he has lying in heaps. Mixing it with the droppings of cattle, horses and hogs, both solid and liquid, especially the latter, is the first and best way of composting. Then the privy will make a large pile properly managed. So will the sink spout and waste water from the kitchen. Mr. Ames, of Wilmington, Mass., obtains the salt and brine in meat and fish barrels from stores, and mixes four barrels of it and four casks of slacked lime with five cords of muck, overhauls twice, and gets what he thinks a cheap and good manure. Dr. Nichols says that fresh peat allowed to ferment in contact with lime is changed into new substances capable of nourishing plants. But still he thinks its chief use is as an absorbent for the liquid manure of stock, so generally lost; but which he says is about equal in value to the solid portions.

RED WATER IN HORSES.

Will you or any of your correspondents please inform me of a remedy for the red water in horses? *Marlow, Mass., Jan. 16, 1871.* C. W.

REMARKS.—Bloody urine is generally thought to be the result of some strain, blow, or violence to the system. Yellow water is an indication of liver complaint, resulting in jaundice. We should endeavor in the first place to ascertain the cause or location of disease. If the bloody urine is the result of a strain, good care and nursing should be tried in preference to much dosing. We advise you to get your family physician to examine your case. Disorders that affect the urine are similar in man and beast. Perhaps rubbing the back and

loins to produce counter-irritation might be beneficial. Messes of potatoes or any green food may be beneficial, if the bowels are at all costive.

SHEEP PULLING WOOL.

Can you or any of your correspondents tell me the cause of my sheep pulling their wool, and any preventive? They are a good flock of Cotswolds and South Downs, well fed and as well cared for as I know how. Will getting too fat cause it?

YOUNG FARMER.

East Greenwich, R. I., Feb., 1871.

REMARKS.—Probably the wool is pulled out by the sheep in their efforts to allay some irritation of the skin,—in other words, in trying to scratch themselves. The itching may be caused by ticks, scab, &c., or by some mild cutaneous disease caused by high feed, bad ventilation, want of green feed, or by cold weather. The remedy should be adapted to remove the cause of the trouble. Tobacco wash is a very common remedy. Dr. Randall recommends an ointment composed of lard, two pounds; oil of tar, half a pound; sulphur one pound. Gradually mix the last two, then rub down the compound with the first. Apply a little of this ointment on the head of the animal. Part the wool so as to expose the skin in a line from the head to the tail, and apply with the finger a little of the ointment the whole way. Make a similar furrow and application on both sides, four inches from the first, and so on over the body. A less thorough application in most cases of slight skin diseases would probably be sufficient.

CABBAGE WORMS.

I have been troubled the past season with green worms on my cabbages, and having seen considerable in the FARMER relative to their origin, I give it as my opinion that they are produced by the common yellow butterfly, as I saw one alight on a plant and deposit two or three eggs and then fly away, and return several times and deposit more. But as the plant was removed before they hatched, I don't know what the result would have been.

Alexandria, N. H., Jan. 16, 1871. L. L. F.

REMARKS.—The *Pieris rapæ* butterfly is light colored, and may have been mistaken by you for the common yellow butterfly; or, if not, the yellow butterfly may not have laid the eggs you found on the cabbage. We suppose the butterfly that deposits the eggs that produce the new cabbage worm is just as well known to naturalists as is the robin or swallow. The common yellow butterfly must have learned new tricks within a few years past if she is the mother of the fearfully destructive cabbage pest.

SIGNS OF PREGNANCY IN COWS.

Under this caption, I notice the remarks of "D. C." In regard to his cows, he does not say which of his cows he is in doubt about. If it is the Jersey, I should not wonder if he was unable to tell whether she was with calf or not. They are thin built, and their calves are generally small. I have a three-fourths Jersey cow, a valuable animal that should, according to our reckoning, have come in the first week in December. She has not been in heat since last taken away,—as our figures make it,

more than ten months. She has gradually dried off, and does not now give more than two quarts of milk in a day, although we keep her well. She is in good condition, feels well and eats well. She is not large, in fact does not look to the casual observer like a cow with calf; and yet we still think she is. She has been kept in the stable most of the time since I have owned her, about a year and a half, so that if she had aborted we should be very apt to know it. My information and knowledge in regard to cows that have aborted, is that they are very apt to get crazily in heat, and that, too, quite often; at least this was true of one of my own, a few years ago, and I have heard that this was true of others in this vicinity. Do cows often go much more than nine months with their young? J. M. C.

Franklin County, Mass., Jan. 28, 1871.

REMARKS.—The period of gestation is generally stated at two hundred and eighty-four days, which has been known to be extended to three hundred and twelve, or more.

NO TROUBLE IN CHURNING—MILLET FOR FODDER.

In reply to the question, What ails the cream? I would answer,—nothing, very likely, ails the cream, but the trouble is in the place you keep it. I have a cupboard near my chimney where our milk is kept, which is always warm. Our butter comes in about the same time that it does in summer, and has the same rich taste.

Please state in the *FARMER* the merits of millet as a crop for fodder. L.

Winchendon, Mass., Jan. 9, 1871.

REMARKS.—Millet has been recommended as a substitute for fodder corn, but practical farmers in our section persist in raising corn instead of millet.

DEATH-LIKE COLD SWEATS—CAUSE, EFFECT AND CURE.

I had a serious attack of bilious fever which completely prostrated me for a long time. After the fever broke, deathlike cold sweats set in about every eight hours. So severe were they that I was brought to death's door. When the sweats were on, the exertion thrown off by the cuticular pores stood out on the body in balls as large as small white beans, and had a very offensive smell. In twenty minutes I would be lying in a pool of wet, soaking through sheets, English blankets, feather bed and mattress.

Cause.—A sudden check to the system, by remaining in a deep ravine after sun-set, while sweating.

Effect.—As stated above.

Cure.—Three large Asafetida pills a day, and common garden sage tea, *strong*, drank at bed time *cold*, in quantities of from half a pint to a quart, if it can be swallowed or gulped down.

The first night the sage tea was taken, the whole system seemed to be undergoing a regular metamorphosis, and battling for victory over the disease. I got no sleep that night, and only one sweat in the twenty-four hours. The next night I took another good allowance of the sage tea, and had a good comfortable night's sleep, and no sweat at all. I drank a little of the sage tea water during the day, sweetened with honey, continuing to take the tea and pills, and in a week was considerably better. Some friends coming to see me, I forgot to take the sage tea at night. I sorely suffered for the neglect, for that night I was again deluged in perspiration, but the smell was not so bad. I continued after that to take the sage tea as regular as I did my meals. The sweats entirely left me, my appetite increased, and I daily gained strength. Any of your readers who wish to ask me for further information, I shall be happy to answer their inquiries,

accompanied with a ready directed, stamped envelope for reply. JOHN WHATMORE,
Bridgeworth Farm, Dunleith, Ill., 1871.

REMARKS.—Happily, few of the readers of the *NEW ENGLAND FARMER* have any experience with the diseases peculiar to Illinois and other Western States, but to that few, the foregoing may be of value. The writer of these remarks has been prostrated by the "death-like, cold sweats," described by Mr. Whatmore, which were so offensive to himself and others that under-clothes and bed had to be changed often. If these directions shall help a single invalid to a "good, comfortable night's sleep," the writer and printer of this article will be well repaid.

PREPARING FOOD FOR STOCK.

Much has been written on this subject, and your editorial of a few weeks since prompts me to advance an idea in regard to a process by which, it seems to me, a greater gain, with far less expense, could be obtained than by any of the processes you described.

Your correspondent, "K. O.," informed me that a man near New Bedford had cut grass and packed it away in its greenest state in new oil casks, and that it had kept perfectly sweet and good, and was eaten with relish the next summer,—a year after—by cattle in pasture. This was only an experiment; but could not grass be packed away in bins made air tight, in considerable quantities, to be fed to milch cows in winter? Here you would have the pure article—not simply an imitation; while the cost of securing the hay crop would be greatly reduced, and the required room for storage vastly lessened.

Such bins could be easily and cheaply constructed in a variety of ways. The grass would soon be settled very solid, and the little air let in for a few moments while getting out a day's foddering would probably be harmless.

Everybody knows the great value of green grass for milch cows; and if the process has not been thoroughly tried, it would seem to me that it would be well for persons interested in it to make the required experiments. If it has been tried we should like to learn the results of such experiments. The grass should be cut when entirely free from external moisture, not too soon after heavy rains, and, of course, no moisture should be allowed to come in contact with it.

I had a lot of corn stalks a year old which I have been feeding out recently. They were badly injured while being secured, and were not relished a year ago. I have filled my feed box with these stalks, uncut, and poured on boiling water; then covered tight, and after standing twelve hours they were eaten up clean with avidity. No salt, grain, roots or anything else to give relish was used.

In regard to the use of salt for animals. A physician, who has kept swine and raised pigs for many years with excellent success, tells me he has never fed a particle of salt, and that he never gave any to his horses, one of which was a most valuable animal, in his hands, for several years. F.

Franklin, Mass., Jan., 1871.

TO KILL LICE ON CATTLE.

Two parts of kerosene oil, and one of any kind of cheap grease, mixed together and applied to the parts infested by the vermin, will make them "laugh" out of the other corner of their mouths. Give the cattle some corn meal twice a day to keep their bowels regular; comb their hair in the right direction—I have some fears it is growing toward

the head on "Constant Reader's" cattle. If this does not kill them, your lice in Maine are different from those in Vermont.

G. M.

Bristol, Vt., Jan., 1871.

Lice cannot live where there is goose grease. Work the grease thoroughly into the hair and on to the skin where the lice live, and in a short time they will be on the ends of the hairs looking for the jumping-off place. One thorough application and the work is done.

W. M. T.

East Marshfield, Mass., Jan. 3, 1871.

BUTTER AND MILK FROM ONE COW.

I saw in your last week's paper a notice of a two-teated cow making over 300 pounds of butter from March 20, 1870, to January 6, 1871. I have read the *FARMER* for eighteen years, and have never contributed anything as yet, but I cannot stand this. I have a cow that calved the 20th of last March, and from that time till the 1st of January, we have made 280 pounds of butter. Beside we have sold 217 quarts of milk, and raised a heifer calf. Also, we have used what milk we have needed for a family of five. But fortune has favored her with four teats.

J. T.

Williamstown, Mass., Jan. 23, 1871.

HORSE TALK.

First, I would suggest to the fast horse men, who wish for an animal to bet and gamble on, that they breed their mares to antelopes or other spy-footed beasts; and, secondly to the farmers of New Hampshire, who are behind those of most other States in breeding good horses, that they make an effort to procure better brood mares. When the season comes and you meet a man that thinks of raising a colt from a mare that weighs less than 1000 pounds, try to discourage him if possible; if not, tell him to go fifty miles, if you know of a larger horse at that distance. If the farmers of our State would form a society for bringing among us half a dozen or more mares, weighing some 1400 pounds, a class of colts might be raised that would be useful on the farm, and profitable to those who raised them.

Plymouth, N. H., Jan. 16, 1871.

F.

EIGHTY-FIVE YEARS ON THE SAME FARM.

Mr. Sabathiel Bump, of Wallingford, Vt., who is now eighty-five years old, has always lived on the farm he now occupies. He can recollect when Troy, N. Y., was the nearest market or trading place, and when there were but four buildings where the village of Wallingford now is. With no tools but a saw, gimlet and jack-knife he made a clock; afterwards he made one that showed the day of week and month, as well as hour and minute, without a model. While able to work, his farm was kept in good order, but as the infirmities of age disabled him he was obliged to let portions of it, until it produced only enough for four cows and one horse. Under the management of his son, Hiram Bump, it has been improved, and now ten cows and a horse are kept upon it. There are now representatives of four generations—son, grandson, and great grandson—in the same family.

Wallingford, Vt., Jan., 1871. ORRIS HAGER.

CRIBBING HORSES.

I would say in reply to friend Cobb's inquiry, that I once run a fine saw between the teeth of a bad cribber, which did not cure him. I would not try that experiment again. I am inclined to agree with the editor of the *FARMER* that the cause is mostly a habit, the result of carelessness on the part of the attendant. I once knew a colt to contract the habit before he was a year old. My rem-

edy is a strap, crossing the head between the ears, buckled around the throat. If this does not effect a cure, take a three-cornered piece of zinc, or thin sheet iron, with two holes through the wide end, slipped on to the strap so that the point will prick the throat between the jaws at every grunt.

P.

Plymouth, N. H., Jan., 1871.

FOOT AND MOUTH DISEASE.

We have had the Epizootic Aphthæ in but one herd in this town, and they have got entirely over the disease, without much loss, but some trouble to the owner. It was taken from an ox frame where a pair of cattle from Brighton had been shod. Owing to the energetic efforts of our town officers and the prudence of our citizens, we hope to prevent the spread of the disease.

S. C.

South Scituate, Mass., Jan. 24, 1871.

SEASON IN WASHINGTON CO., VT.

Thus far we have had a very open winter,—not more than ten or twelve inches of snow at any time. The 12th it commenced to thaw, and continued to until the 17th. The 16th was a very rainy day and consequently we shall have to resort to wheels until more snow falls. The weather has been very favorable for stock, and in this vicinity it is wintering well. I can see a marked improvement in the management of stock within the last five years in this part of the county. There are few farmers that have not one or more animals that he is proud to show, and many of them whole flocks.

Sheep are not extensively kept at present, as most farmers have got tired of waiting for the good time coming, that was looked for a few years ago. But one thing is noticeable, that is, the few that remain are being greatly improved, especially as mutton sheep. The hogish nature of swine has taken a step decidedly down grade, this way, within the last few months. But possibly the cattle disease will improve the market for pork.

We are soon to have good railroad facilities in this part of the county, as the Lamouille valley will be on one side and the Montpelier and Wells river on the other. Some are pleased and some are not. One man in Hardwick, to get rid of the bonded tax of the town, sold out a good farm with new buildings, and the same farm has since been resold for two thousand dollars advance.

Cabot, Vt., Jan., 1871.

S. B. BLODGETT.

OFFICERS OF AG'L SOCIETIES.

EAST SOMERSET, ME.—*President*, Eleazer Crocker, St. Albans; *Secretary*, Thos. Fuller, Harland.

WALDO CO., ME.—*Pres.*, W. C. Marshall; *Sec.*, Geo. E. Brackett.

PARKMAN AND ABBOTT, ME., CLUB.—*Pres.*, Wesley Harrington; *Sec.*, L. E. Hovey, Parkman.

KENDUSKEAG, ME., CLUB.—*Pres.*, E. F. Nason; *Sec.*, T. P. Batchelder.

SOUTH NEWBURY, ME., CLUB.—*Pres.*, J. P. Rigby; *Sec.*, O. M. Bickford.

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MT. VERNON AND VIENNA, ME., CLUB.—*Pres.*, Sewall Eaton; *Sec.*, P. J. Cogswell.

CORINTH, ME., CLUB.—*Pres.*, John Thissell; *Sec.*, John Thomas.

LAMOUILLE COUNTY, VT.—The Lamouille County Agricultural and Mechanical Society met in Morrisville, January 3d, and elected the following officers: *President*, C. S. Parker, Elmore; *Vice Presidents*, G. F. Small, Morris-town; Orson Hadley, Hyde-park; *Secretaries*, Isaac N. Le Baron, Morris-town; H. Harris, Stowe; *Treasurer*, C. W. Fitch, Morris-town.

WEYMOUTH, MASS.—Annual Fair of the agricultural and Horticultural Society on the 19th and 20th of Sept., 1871. W. Dyer, Secretary, South Weymouth.

LIFE IN ASIA.

We noticed, some weeks since, the work from which the following extracts are made,* and more full examination has fully confirmed our first impressions as to the interest of the book. The country through which Mr. Knox travelled is out of the ordinary route of travellers, and the people and customs, and the scenery which he describes are therefore new to the reader, and the knowledge imparted the more valuable.

Emigrants on the Amoor.

Every day we saw rafts moving with the stream or tied along the shore. They were of logs cut on the Amoor, and firmly fastened

We saw many Gilyak boats descending the river with the current or struggling to ascend it. The Gilyaks form the native population in this region and occupy thirty-nine villages with about two thousand inhabitants. The villages are on both banks from the mouth of the river to Mariensk, and out of the reach of all inundations. Distance lends enchantment to the view of their houses, which will not bear close inspection.

Some of the houses might contain a half dozen families of ordinary size, and were well adapted to the climate. While we took wood at a Gilyak village I embraced the opportunity to visit the aboriginals. The village contained a dozen dwellings and several fish-houses. The buildings were of logs or poles, split in halves or used whole, and were roofed with

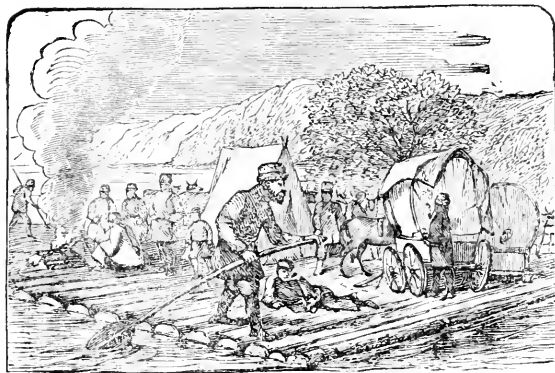
poles covered with a thatch of long grass to exclude rain and cold. Some of the dwelling houses had the solid earth for floors, while others had floorings of hewn planks.

The store houses were elevated on posts like those of an American "corn barn," and were wider and lower than the dwellings. Each storehouse had a platform in front where canoes, fishing nets, and other portable property were stowed. These buildings were the receptacles of dried fish for the winter use of dogs and their owners. The elevation of the floor serves to protect the contents from dogs and wild animals. I was told

that no locks were used and that theft was a crime unknown.

The dwellings were generally divided into two apartments; one a sort of ante room and receptacle of house-keeping goods, and the other the place of residence. Pots, kettles, knives, and wooden pans were the principal articles of household use I discovered. At the storehouses there were several fish-baskets of birch or willow twigs. A Gilyak gentleman does not permit fire carried into or out of his house, not even in a pipe. This is not owing to his fear of conflagrations, but to a superstition that such an occurrence may bring him ill luck in hunting or fishing.

It was in the season of curing fish, and the stench that greeted my nostrils was by no means delightful. Visits to dwellings or magazines would have been much easier had I possessed a sponge saturated with cologne water. Fish were in various stages of preparation, some just hung upon poles, while others were nearly ready for the magazine. The manner of preparation is much the same as in Kamchatka, save that the largest fish are skinned before being cut into strips. The poorest qualities go to the dogs, and the best are reserved for bipeds.



EMIGRANTS ON THE AMOOR.

with poles and withes. An emigrant piles his wagon and household goods on a raft, and makes a pen at one side to hold his cattle. Two or three families, with as many wagons and a dozen or twenty animals, were frequently on one raft. A pile of earth was the fire place, and there was generally a tent or shelter of some kind. Cattle were fed with hay carried on board, or were turned ashore at night to graze.

Some rafts were entirely laden with cattle on their way to market or for government use at Nicolaievsk. This is the most economical mode of transportation, as the cattle feed themselves on shore at night, and the rafts float with the current by day. A great deal of heavy freight has been carried down the Amoor in this way, and losses are of rare occurrence. The system is quite analogous to the flat-boat navigation of the Mississippi before steamboats were established.

Gilyak Village.

In ascending the Amoor, the author visited a native village, which he thus describes:—

*OVERLAND THROUGH ASIA. Pictures of Siberian, Chinese and Tartar Life.—By Thomas W. Knox. Hartford: Am. Publishing Co.; Boston: G. M. Smith & Co., 129 Washington St.



GILYAK VILLAGE.

Though the natives do the most of the fishing on the Amoor, they do not have a monopoly of it, as some of the Russians indulge in the sport. One old fellow that I saw had a boat so full of salmon that there was no room for more. Now and then a fish went overboard, causing an expression on the boatman's face as if he were suffering from a dose of astonishment and toothache drops in equal proportion.

A LARGE BLACKBERRY PATCH.

No blackberry, excepting the wild one of the fence sides and pastures, so far as our knowledge goes, has yet been found which is sufficiently hardy to ripen its fruit in the open air in and north of the State of Massachusetts. We have transferred the *wild one* into the garden and obtained tolerably fine fruit from it; not large, but of very high quality. It did not prove sufficiently prolific, however, to make its cultivation an object. If a high cultivation were persisted in for several years it might result in producing an abundant bearer of excellent fruit.

The variety known as the *New Rochelle*, or *Larion*, is a splendid fruit, and is becoming quite common in the markets of New York city and those south of it. In the region of Boston, the warm season is not long enough to ripen it. We have had vines loaded with the largest and finest-looking fruit we ever

saw, early in October, when no frost had touched it. It was in perfect shape, as black as coal, and as sour as vinegar! In rooting out a patch by Irishmen, loaded with such fruit, no one was found who would eat it. It was "bad to give the pigs." The bunches of this fruit surpass those of any other blackberry which we have seen. The berries are long, thick in diameter as compared with other varieties, and are clustered upon long stems, so that a few bunches only would be required to fill a quart measure. The attempt to ripen them by sheltering hedges, and by other means, did not succeed, and we were most reluctantly obliged to give them up.

The *Dorchester*, introduced by the late Capt. Lovett, of Beverly, Mass., is nearly equal in size to the *New Rochelle*, of a more elongated form, grains rather smaller, somewhat sweeter, and produces large crops of high-flavored fruit, and is a vigorous grower on rich soils. The fruit is of a deep, shining black. When highly cultivated it runs to vines extravagantly, which are apt to be winter-killed, in part, and become fruitless. Planted on a lighter and poorer soil, they make less vines and are more fruitful with us.

But we intended to say something of the *little* blackberry patch of Mr. John S. Collins, near Camden, N. J. It comprises sev-

enty-five acres, and all in profuse bearing. It was visited by the editor of the *Practical Farmer*, who states that on the day of his visit, 7,000 quarts had been picked; a full day's work for the persons employed would be 14,000 quarts, which were fully expected the following day. Thousands of the bushes were bending nearly to the ground under their weight of fruit. The rows were eight and one-half feet apart, and the plants four to four and one half feet apart in the rows. No weeds were to be seen. By far the largest portion of the vines were the variety known as *Wilson's Early*. It differs from the *Lawton* in being ripe when black; is of good size, melting and juicy, which, with its *earliness*, being the first in the market, and treading closely on the heels of the raspberry, always secures the best price.

Mr. Collins was receiving twenty cents per quart, wholesale price, at the time, which, with 14,000 quarts, makes the round little sum of \$2,800 for one day's picking! Price paid for picking was one and one-half cents per quart, and the average is one hundred to one hundred and fifty quarts per day to each hand, but sometimes running up to two hundred quarts per day.

We shall be glad to learn whether the *Early Wilson* is sufficiently hardy for the climate north of Boston.

The *Kittatimny* is said to be hardy, productive, and the fruit very rich. Not yet fruited by us. *Newman's Thornless* has the merit of not pricking the hands when gathering the fruit, but we know nothing of its merits otherwise. It is said, however, to promise well.

The *Sable Queen* originated in Essex County, Mass., and is spoken of in the highest terms, as a good grower, fruit of surpassing excellence, and the vine hardy enough to resist the cold of New England winters.

A perfectly ripe blackberry, of a good variety, is one of the best of our fruits. As the peach stands at the head of the larger fruits, so the blackberry stands in regard to the smaller ones. We have never yet found a person who did not like the blackberry. Excellent as it is in its fresh state, it is no less so when properly preserved. It is also freely used as an alternative for the bowels.

—England uses 86,000 tons of bone-dust and 210,000 tons of guano a year.

For the New England Farmer.

"BUTTER MAKING."

I have read with much interest the many articles upon butter making that have appeared from time to time in the columns of your valuable paper, and I must say that, according to my experience, Carrie has come nearer the *common* method of making butter than any other. I am not a farmer's wife or daughter, and am *honestly* afraid of a loose cow; but I know how to make butter, for all that, having made more or less for eighteen years. During that period we have had quite a number of cows, and I have come to the conclusion that the quality of the butter depends in a great measure upon the cow. Of course other things must be taken into consideration. Every woman who has the care of milk and is blessed with a medium share of common sense, knows she must skim her milk before the cream moulds on the top, or the milk becomes so sour that it wheys; and that she must churn before the cream smells old in summer or grows bitter in winter. But one may take the very best care of the milk, cream, and butter and then have butter of a very inferior quality, and even so poor as to be unfit for table use. That I *do* know. And what is more discouraging than mean, bitter, butter, when a woman has tried her best to make it good? We all know how much labor a pot of butter represents, and then to have it *uncuttable*,—dear me! And worse than all, be obliged to bear all the blame and have the name of making poor butter, when the fault is in the cow!

It will take a wiser head than mine to say why one cow makes good butter, while another, standing by her side in the same barn and having the same care and feed, milked by the same hand also, makes poor. I can only say in the words of "Old Aunt Tabithy," "I dunno howew they due it, but they du."

Early last Spring my liege lord bought a Jersey heifer, full blooded, of good size, with the "points" of a good cow. She dropped her calf the middle of May, she being then three years old. The calf was a large, handsome fawn-colored fellow, and grew finely, weighing almost one hundred pounds when the butcher took him in charge at the age of four weeks. Since then "Mollie Jersey," as we all call her, has done well. Her milk is small in quantity but rich in quality, and *such butter!* She has made 84 pounds a week (remember she is a three-year-old) in good feed, and during the winter has made from three to five pounds a week. She gives about four quarts of milk a day now. We have used all the milk we need for a family of four, and that is considerable; but let me also admit that all the milk used for puddings, &c., has been allowed to stand over night and then *skimmed* before being made up, thereby enriching the cream-pot, and the milk was still good enough. The butter churned last week was

as yellow as half the June butter one sees, and as sweet. It has no stable flavor (and though a boy of sixteen takes all the care of her and is proud of her too,) no bitter *twang*, no uncleanly taste of cellar or any other thing than good, pure sweet butter "salted to suit the taste," and not very salt at that.

I wish I had weighed her butter the past season, but I have not. I only know it is now almost February, and we have used butter as freely as we pleased upon the table, and for cooking, have sold seventeen pounds, and I should judge there was enough stored away to last until next Fall. We feed her meal and fine feed twice a day, about a pint of meal and a quart of fine feed at a time. I scald my milk by putting a wire bread-toaster upon the top of the stove and setting the pan of milk on it. Do not scald too much, as it makes the butter *greasy*. I have churned this winter, about once in eight or nine days. Keep my butter in large stone pots, up stairs now—my June butter is in brine. I use no sugar or salt-petre.

Mrs. S. B. S.—

West Amesbury, Mass., Jan., 1871.

For the New England Farmer.

CROPS FOR 1871.

The question of Farm Crops for 1871, was discussed at a meeting of the Sunderland, Mass., Farmers' Club, Feb. 2.

L. P. Warner, who opened the discussion, said our crops should be such as to enable us to make the most of everything,—the most of the farm, the most of our labor and the most of our knowledge and talents. Those crops that require the most labor compared with amount of capital employed will be most likely to be most profitable so long as man earns his bread by the sweat of his brow. He mentioned tobacco, onions, garden vegetables and the small fruits. Hay and forage crops ought not to be neglected, for these are the basis of fertility of the farm. He had grown corn for winter fodder with satisfactory results. It was planted early in July, in rows about three feet apart and the hills eighteen inches. He cut it after the kernel was formed and before it was full in the milk.

Stooking Fodder Corn.

Three hills, two on one row and one on another, without cutting, were bound together, above the ears for the commencement of each stook. Around these, the corn as it was cut was placed. These three uncut centre hills operated rather as guys than braces. After the stook was firmly bound at the top, it was almost impossible to push one over. Of one hundred and forty stooks thus put up not one fell. The fodder cured well and was eaten with good relish by stock in winter.

Mr. E. E. Robinson was of the opinion that his crop of grass had been improved by the cultivation of tobacco, as one of the crops in

a rotation. Thought tobacco, onions and grass should be the crops grown in 1871.

Mr. J. R. Smith believed that broom corn ought to be one of the crops for 1871. He thought the seed of a well ripened crop of broom corn worth more for feeding purposes than the Indian corn that would grow on the same field.

Mr. H. G. Sanderson agreed with Mr. Smith as to the value of broom corn seed, but said every farmer should raise more or less Indian corn, both for green and winter fodder as well as the grain.

Mr. T. H. Williams wanted to grow something he could both chew and swallow, and thought potatoes should not be neglected, because every farmer had some land better adapted to this than the tobacco crop.

Mr. E. G. Smith remarked it might answer for a farmer that had a good farm clear of debt to raise corn, broom corn and potatoes; but a young farmer just starting in business must grow such crops as will leave a margin for profit, or his pile will increase slowly. He would grow tobacco, onions and all the forage possible, but would let the Western farmer raise corn for him.

"WINNINGS OF 1870."—The *Turf, Field and Farm*, printed in New York city, gives a table of the "Principal Winning Owners of 1869 and 1870," from which it appears that "Hon. A. Belmont," President of the "American Jockey Club," owns horses that won \$25,875 in 1869 and \$34,755 in 1870. No statement is made of his losses, nor do we care to know anything about the balance of his account, or of the influences which were brought to bear on the results, as we regard the whole business as one of the most objectionable forms of gambling known in the country. But the question whether the "Rules" and practices of these men are to govern the trials of speed or any other part of the proceedings at the fairs of our agricultural societies, is one in which we are interested, and it is one that must soon be decided. To say nothing of the effect of being judged "by the company we keep," some of our societies have been driven to the mortifying necessity of notifying those to whom premiums were awarded for farm produce and agricultural implements that, after making up the purses for horses, the funds were left so low that only a per cent. dividend could be paid to farmers and mechanics.

—Rabbit-breeding is carried on upon a large scale in London, Can., where there is a warren of five acres, surrounded by a board fence ten feet high, and containing at present two thousand rabbits. The cost of feeding and caring for these is twenty-five cents apiece annually, and the net profits from the whole warren five thousand dollars a year. The annual increase is an average brood of twenty-five to each pair.

STEAMERS ON THE FARM.



CORRESPONDENT, whose eyes and thoughts are evidently active, puts a series of questions to us, which we published last week, that others might be thinking them over, that will require some investigation and considerable activity of mind, to answer them satisfactorily either to himself or to whoever may attempt to reply.

He desires to know whether it is probable that engines for *steaming food*, and for *other purposes* on the farm, will ever become as common as mowing machines?

Briefly, for ourselves, we reply, that we think not. There was a necessity for the mowing machine which does not exist for the steamer. Hay, roots and grain may be kept in good condition for a comparatively long period, while grass, in the state to make good hay cannot. Large quantities of grass ripen at the same time, a considerable portion of which, if kept standing until its seeds were perfected, would be greatly reduced in value. The mowing machine, therefore, enables us to cut and make several tons of grass into hay, where we should secure one ton only, if obliged to cut the grass by hand.

Another question relates to the use of

Meal and Meadow Hay.

For some remarks upon this subject, we refer him to a reply to another correspondent on a similar topic.

A third inquiry is in regard to

Machines for Preparing Brush for Fire Wood.

He desires to know whether "wood reduced to fine pieces, or even to "shavings," will afford as much heat as wood in a coarser form? To fully answer this question would require something of a scientific essay.

Bakers heat their ovens by the use of fagots, —branches of trees and small bushes tied together. As they kindle readily, and give a great quantity of flame, they are used where a strong and quick heat is required. If they cannot get these, they use dry, pine wood. It was supposed at one time that locomotives could only be run by the use of dry wood. But some scientific person found that coal could be used by employing a "blower,"

which would kindle coal into a fierce heat, and send that heat along to the flues of the boiler.

There are many cases in domestic economy where wood, cut into small pieces, is the cheapest fuel, and this is a circumstance too much neglected. Count Rumford states that in very small fires for some purposes it is the most cleanly, the most convenient and most manageable fuel. He found by experience that any given quantity of wood, burned in a closed fire, gives near three times as much heat as it would if reduced to charcoal.

In order to heat intensely, a steady flame is required. The volume of flame need not be large, if it is constant. The operations of the blow-pipe show how readily metals may be melted in its flame. A few sticks, confined to a small space and kindled into a flame, will produce a powerful heat. This is often done in the summer season by the farmer's wife. A few small, dry sticks are placed directly under the tea kettle and ignited, which soon set the "kettle singing," and yet scarcely warming the room to any perceptible degree. In such a case, charcoal or large sticks, would not heat the water half as quickly as fagots or small pieces of wood, though twice as much were used of the large pieces.

But our correspondent may wish to know whether it is economical to use a machine for cutting brush into small pieces to be used as fuel. This will depend upon circumstances. If wood is worth \$7 to \$10 a cord by hauling it a mile or two, that would be a good reason for using the brush as fuel. And if a horse or steam power were used for other purposes on the farm—which is sometimes the case—then it would cost comparatively little to cut the brush, and it might then be economical to do so, but if this work were to be done by hand, it might scarcely be economy to do it, even if wood were worth seven or eight dollars a cord.

Some of his other inquiries will be noticed hereafter, and we invite the readers of the FARMER to help us in solving his problems.

DEEP PLOUGHING FOR WORN-OUT LANDS.—The agriculturist should know that all soils, and even granite rocks, contain more or less of the elements of vegetable growth. Soil while in a dense state, so compact that the gases which form the atmosphere, with the aid of the sun and rain, heat and cold, cannot penetrate and decompose them, will

be sterile; while by disintegrating them they will become fertile, and their power for absorbing and combining with manurial substances greatly increased. Therefore it is that the same quantity of manure, the same season, and the same kind of land, yields far greater returns where the land has been deeply and thoroughly pulverized.

LAMBSKINS FOR LADIES' OVER-COATS.

In a climate like that of New England, warm outside garments are indispensable both to comfort and health. These are too often sought in fragile and very expensive materials, when articles which are quite as handsome, cheaper, and stronger, may be found much nearer at hand.

The sack coats, as they are called, now so fashionable, are among the most convenient, comfortable, and reasonable garments ever introduced. Some of them, made up of expensive materials and burdened with a prodigality of trimming, are as costly as they are showy, and confer no more warmth than one of less pretensions. A correspondent of the *New York Tribune* gives the following process for preparing lambskins for clothing material:—

"Make a strong suds with hot water; let it get cold, and wash the skins, squeezing them carefully to get out all the dirt from the wool; wash the soap out with clean, cold water, and cover them with water for twelve hours; then hang them over a pole to drain; when partially dry, stretch them carefully on a board, and when a little damp, sprinkle on them an ounce each of pulverized saltpetre and alum; lay the flesh sides together, and hang in the shade for two or three days, turning them over every day, to bring the under skin uppermost, till they are perfectly dry; then scrape the flesh side till all scraps of flesh are removed; rub it with pumice or rotten stone and with the hands; then lay the cloak pattern down on the flesh side of the skin, trace it round with a pencil, and cut it out with a sharp knife; overcast the edges together on the wrong side, and line with quilted silk. No collar, fur, or trimming is worn with an astrachan or lambskin cloak."

The wool of Cotswold, Leicester, and other long-wooled sheep, prepared in this way, and trimmed with some bright material, will be found comfortable, and will greatly resemble the "Astrachan" sacks which are now considered so desirable.

COMMISSIONERS ON CATTLE DISEASE.—The Commissioners appointed by the Governors of several States met for comparison of notes at Albany, Feb. 9. There were present from

New York—General Patrick, Doctors Moreau, Morris, and Lewis F. Allen.

Massachusetts—Dr. E. F. Thayer and Levi Stockbridge.

Connecticut—E. H. Hyde, T. S. Gold, and H. L. Stewart.

Rhode Island—Dr. E. M. Snow, Samuel W. Church, and Edwin Darling.

Maine—S. L. Goodale.

Dr. Thayer was appointed chairman, and Mr. Stockbridge secretary.

After a full interchange of views and statement

of facts the Commissioners were unanimously of the opinion that the disease was easily prevented, provided that prompt sanitary and restrictive measures were adopted.

The following prescription for daily disinfection of the cattle-yards was presented by Dr. Morris, and received the approval of the Commissioners, most of whom had tried it:—

Ten pounds of copperas, 60 gallons water, and one-half gallon 30 per cent. carbolic acid; total expense 25 cents per barrel for the preparation. The solution must be stronger if it is to be applied only twice a week, and the composition will accordingly be thus: Ten pounds copperas, 20 gallons of water and one-half gallon of 30 per cent. carbolic acid.

Farmers' Clubs and other agricultural associations were requested to aid in efforts to avert the evils now threatened. The following resolution was adopted:—

Resolved, That a committee be appointed to publish the best remedies for the cure of animals afflicted by contagious or infectious diseases, and their proper treatment when attacked by such complaints.

GREAT CROPS OF CORN.—Mr. A. J. Straight sends us a copy of the Richland, Wis., *Sentinel*, in which he publishes a statement claiming to have raised the past season on twenty-five acres an average of "fully one hundred and thirty bushels of shelled corn per acre." He says the corn can be seen and measured at any time. So we conclude it has not been shelled yet, and he does not inform us by what principle of estimation the amount of the crop was ascertained. Farmers in New England have raised over one hundred bushels per acre *by estimation*, but we never saw one hundred bushels of corn shelled from the ears that grew on a single acre, and we would willingly travel one hundred miles to see that amount of corn on the stalks growing on one acre of land.

THE STOCK YARD OF AMERICA.

Dr. Latham contributes to the *Omaha Herald*, an article on cattle-raising in Texas, from which we make extracts as follows: Texas is truly the cattle-livc of America. While New York, with her 4,000,000 inhabitants and her settlements two and a half centuries old, has 748,000 oxen and stock; while Pennsylvania, with more than 3,000,000 people, has 721,000 cattle; while Ohio, with 3,000,000 people, has 749,000 cattle; while Illinois, with 2,800,000 people, has 867,000 cattle; and while Iowa, with 1,200,000 people, has 686,000 cattle; Texas, not 40 years of age, and with her 50,000 people, had 2,000,000 head of oxen and other cattle, exclusive of cows, in 1867, as shown by the returns of the county assessors. In 1870, allowing for the difference between the actual number of cattle owned and the number returned for taxation, there must be fully 3,000,000 head of beeves and stock cattle. This is exclusive of cows, which,

at the same time, are reported at 600,000 head. In 1862 they must number 800,000, making a grand total of 3,800,000 head of cattle in Texas. One-fourth of these are beeves, one-fourth are cows, and the other two-fourths are yearlings and two-year-olds. There would, therefore, be 950,000 beeves, 950,000 cows, and 1,900,000 young cattle. There are annually raised and branded 750,000 calves. These cattle are raised on the great plains of Texas, which contain 152,000,000 acres.

Ladies' Department.

From Harper's Magazine for February.

MARGUERITE.

BY KATE P. OSGOOD.

What aileth pretty Marguerite?
Such April moods about her meet!
She sighs, and yet she is not sad;
She smiles, with naught to make her glad.

A thousand flitting fancies chase
The sun and shadow on her face;
The wind is not more light than she,
Nor deeper the unsounded sea.

What aileth pretty Marguerite?
Doth none discern her secret sweet?
Yet earth and air have many a sign
The heart of maiden to divine.

In budding leaf and building nest
Lie hidden mysteries half confessed;
And whoso hath the gift of sight
May Nature's riddle read aright.

Not all at once the lily's heart
Is kissed by wooing waves apart;
Not in a day the lavish May
Flings all her choicest flowers away.

Fair child! shall potent Love alone
Forget to send his heralds on?
Ah, happy lips, that dare repeat
What aileth pretty Marguerite!

MODERN HOUSEKEEPING.

The fashions of modern life are not favorable to good housekeeping. Here and there we meet with a woman who has made it an art, and carried it out to a beautiful perfection; but the number of those who have done so is small compared to the indifferent, the inefficient, those who interfere without organizing, and those who have given up their office to servants, retaining merely that symbol of authority called "keeping the keys." Few women above a very mediocre social position do anything in the house; and the fatal habit of fineladyism is gradually descending to the tradesman's and mechanic's classes; fewer still try to elevate the system of housekeeping altogether, and make it possible for ladies, even the artificial product, to take an active part in it with pleasure and profit to themselves. Yet French and German women keep house actively, and do not disdain the finer portions of the work.

With the help of the machines which American need has fashioned for the home, this does not seem a very degrading task for women. One consequence wherever ladies of education are active housekeepers is, that a more scientific, compact, cleanly and less rude and wasteful mode of cookery obtains. And indeed that cooking question is a grave one, belonging especially to women, and quite as important in its own way as the knowledge of drugs and the mixing up of pills. Women do not consider it so, and ladies are rather proud than otherwise of their ignorance of an art which is one of their elemental natural duties. But they want to be doctors, if they object to be cooks. Yet how it can be considered honorable to get meat by manipulating *assa-fetida*, and degrading to attend to the cooking of that meat when got—beneath the dignity of a woman's intellect to understand the constituent elements of food and what they make in the human frame, yet consistent with that dignity to understand the effect of drugs—why the power of bringing back to health should be a science fit for the noblest intellects to undertake, and the art of keeping in health an office fit only for the grossest and most ignorant to fill—is a nice distinction of honor, the quality of which I, for one, have never been able to understand; nor why that *imperium in imperio*, the kitchen, is a better institution than the centralization of authority dating from the drawing-room. Society in its simplest aspect is, as it were, the radical of our own more complex conditions, and do as we will, we cannot escape from the eternal fitness of this division of labor—the man to provide, the woman to prepare for use and to distribute. While, then, our housekeeping is bad because not undertaken with heart or intellect, and while our national cookery is still little better than "plain roast and boiled," we cannot say that we have gone through this lesson from end to end, or exhausted even this portion of our special acre.—*Macmillan's Magazine*.

LOVE GIFTS.

From time immemorial the most useful love-gifts have been rings, bracelets of hair, flowers, birds, scented gloves, embroidered handkerchiefs, and such like articles. Autolycus has, in his peddler's pack:—

"Golden quoifs and stomachers,
For my lads to give their dears."

In ancient Greece, pretty birds were generally love-gifts; caged birds were sold in the market at Athens for that purpose. Among the Romans rings were exchanged; and this custom seems to have prevailed in all ages, and every country. Chaucer describes *Cresseide* as giving *Trifolus* a ring with a "posy," and receiving one from him in exchange, and Shakespeare frequently alludes to such tokens. The rings that *Portia* and *Nerissa* present to their betrothed husbands play a conspicuous

part in the last act of "The Merchant of Venice;" and in "The Two Gentlemen of Verona," *Julia* says:

"This ring I gave him when he parted from me,
To bind him to remember my good will."

Swinburn, in his *Treatise on Spousals*, gives the following reason for the ring being the chosen emblem of true love, "The form of the ring being circular, that is, being round and round without end, importeth thus much, that their mutual love and hearty affection should roundly flow from the one to the other as in a circle, and that continuously and forever." In the most remote ages the ring or circle was used as an emblem of eternity; in Egypt and Greece, a usual form of emblematic circle was the serpent with its tail in its mouth, and this form has been frequently adopted in rings and bracelets.

The custom of breaking a gold or silver coin between lovers is also very ancient, and may probably have been derived from the old Athenian symbol. A piece of metal or wood was cut into two parts, one-half being retained by the native of Attica, the other given to the stranger whose acquaintance he had made. The bearer of the symbol, whether one of the original parties or only a friend, was entitled to all the rites of hospitality from the owner of the other half. Not to acknowledge this duty was considered scandalous and a crime. Coins were no doubt subsequently used because of the facility of recognizing the token by the device. A "bowed," or crooked piece of money, was preferred as a love token, being considered more lucky. These broken coins, pledges of love, are frequently referred to in poem and story.

Strutt mentions small embroidered handkerchiefs among the love favors in vogue in England in the olden time. They were about three or four inches square, "wrought round about," with a button or tassel at each corner, and another in the centre. Some were edged with narrow gold lace or twist, and then folded so that the middle might be seen; they were worn by accepted lovers in their hats or at the breast. These were so fashionable in Queen Elizabeth's days that they were sold in the shops at from sixpence to sixteenpence apiece.

Camden, in his *Ancient and Modern Manners of the Irish*, speaks of lovers presenting their mistresses with bracelets of woven hair; and among northern nations a knot was a symbol of love and fidelity. The origin of the expression true-love knot is not from true love, as might be supposed, but from the Danish *Trulofa fidem do*—I plight my troth. —*Temple Bar*.

FILL YOUR LAMPS IN THE MORNING.—Scarcely a week passes but we read accounts of frightful accidents from kerosene lamps exploding and killing or scarring for life, men, women and children. A simple knowledge of the inflammable nature of the liquid will probably put a stop to nearly all the accidents. As the oil burns down in the lamp, highly inflammable gas gathers over its surface, and as the oil decreases the gas increases. When the oil is nearly consumed, a slight jar will inflame the gas, and an explosion is sure to follow—death and destruction. A bomb-shell is no more to be dreaded. Now, if the lamp is not allowed to burn more than half way down, such accidents are almost impossible. Always fill your lamp every morning, and then you need never fear an explosion.

LADY NURSES.—In respect to nursing, that it should cease to be regarded as an occupation implying a social position not above a certain level, doubtless would demand, a high rate of remuneration and an excellent social position should be enjoyed by some of the body; but, provided there were a common bond of true knowledge and high feeling pervading the whole, these more fortunate members need be by no means numerous. Their honor would involve the honor of the whole; and the lady who, well instructed in her art, and with an enthusiasm which should render her incapable of degrading it, should spend her time in the abodes of the poor for such small sums as their means could afford, would find that the honor of the whole body was to her "a robe and a diadem," and would place her, as far as it places the curate, from having her social grade tested by her purse.—*Cornhill Magazine*.

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MONTHLY.

SIMON BROWN, / EDITORS.
S. FLETCHER, }

APRIL, 1871.

"The robin and the blue bird sing
O'er meadows brown and bare;
They cannot know what wondrous bloom
Is softly budding there;
But all the joy their hearts outpour
Seems pulsing in the air."



FEW persons can recollect such weather as we have had for the last six months. The oldest heads say "It beats all," the almanac-makers are puzzled, and the astronomers are thrown out of gear as to the weather. The storms have ended with warm, calm airs, all through the autumn and winter. The rains did not descend, nor the floods come, when the plants were trying to grow,

and the earth rolled round under the scorching sun until it became like a huge clay cake, just from a seven-tin es heated oven. As to spring thaws in this region, we shall have none, as there is no snow to be melted; there are no swollen streams, no "rippling rills," no "sounds as of a hidden brook," wander where you will. Cattle roam in search of a living stream; "grinding is low;" mill wheels are stopped;

machinery is rusting, and men, women and children find their means of compensating the butcher, baker and grocer are getting low too.

But, as we write a little in anticipation of our fickle friend APRIL, all this may be changed before he appears: the brooks be singing, the meadows flooded, and the wheels revolving more merrily than ever. Even snow-drifts, as has happened before, may block the ways so that the traveller is snow-bound at the country inn, and large companies of persons, strangers to each other, are left for hours to their meditations, or to devise by their own ingenuity some source of amusement while badly snowed up in the cars, hungry, thirsty, and lucky if not half frozen, too! What a climate this of ours! And yet, who can say how it can accommodate us better.

At any rate, so long as it is too inclement to engage in labor upon the soil, it extends the time when

Plans for the Season may be Made.

This is a matter of more importance than many farmers give it. The carpenter would come out poorly who commenced hewing his timber for a frame without first learning the size and length required for his work. And so in every other calling. Success in any effort requires system. The farmer who enters his fields in the spring without some definite plan of proceeding, finds himself at a loss at every step. If he concludes to devote a certain field to corn, he finds, by-and-by, that another piece

is better adapted to that crop, and that he must change it. This is perplexing, and carries with it from day to day an uncertainty as to what is best to be done.

It is important, therefore, in the first place, that the farmer shall be fully acquainted with the different qualities of his soils, and their character as to being wet or dry. With this knowledge, he will be able, at his fireside, to determine what portions of land shall be ploughed for cultivation, and what particular crop shall be applied to each. Nothing of this kind should be left to be done when the time for sowing or planting has come, and men and teams are waiting to enter upon the work.

He who commences in the spring with this uncertainty and delay, will be quite likely to find himself in the whirlpool of doubt and difficulty, until another frost shuts up the earth.

We should neglect a duty, did we not urge upon the farmer

More Attention to the Garden.

No part of the farm can be made more profitable. It will be surprising to those who have not tried it, how much may be obtained from a well cultivated garden, towards supplying the table all through the summer and autumn months with fresh, nutritious and palatable food,—the early lettuce, radishes, asparagus, peas, onions, early potatoes, tomatoes, cabbage, beans, sweet corn, cucumbers, squashes and melons. Then there are the fruits; delicious strawberries for the breakfast or tea table, or for dessert at dinner, instead of costly puddings or pies; the raspberry, currant, or the white or black thimbleberry, that will grow and fruit abundantly on almost any soil. These are healthful, and highly appreciated by all, especially the children, and are altogether more wholesome than much meat in hot weather. Some hardy varieties of the blackberry, one of the finest fruits of New England, may also be grown in our fields or gardens.

These garden growths not only minister to our physical wants, but they save much money that is needed for other purposes,—for the mechanic, for household conveniences or comforts, for books, clothing, schools or the church.

"But," says one, "it is too puttering work,

I cannot break my back over it; I had rather raise oats or potatoes, and buy the garden stuff." But he did no such thing; for when unexpected visitors came, he *borrowed* a few vegetables in order to break up the awful blank between the bread and meat upon the table. Without the garden, the vegetables and fruits are not abundant upon the farmer's table. We are happy to confess that a sensible change has taken place in this matter.

There is no real difficulty in the way of any farmer having a good garden. It need not be laid out in forms requiring the aid of a landscape gardener, but with those simple lines which would make it easy and convenient to work among the plants. These should be as far as possible in straight lines, so as to do a large portion of the work with a hand cultivator or wheel hoe. The women and children would assist in weeding, and in gathering the crops as they are wanted, so that the task of tending a garden would not be half as burdensome as is sometimes imagined.

But the robin and bluebird, the bare fields and swelling buds, all invite us into the open air, so we will quote part of an old song for the young folks who have read the foregoing about APRIL and the GARDEN, and then visit the singers in the orchard.

"Come listen to me, and so shall you be stouthearted
and fresh as a daisy;
Not ready to chatter on every matter, nor bent over
books till you're hazy;
No splitter of straws, no dab at the laws, making black
seem white, so cunning!
But wandering down out o' the town, and over the
green meadow running.
Ride, wrestle and play with your fellows so gay, all so
many birds of a feather,
All breathing of youth, good humor, and truth, in the
time of the jolly spring weather;
In the jolly spring time, when the poplar and lime
dishevel their tresses together."

APRIL AFFAIRS ON THE FARM.

A person may pretty thoroughly understand his business, and yet sometimes forget to do a certain work at the time when it could most appropriately have been done.

For instance, how many times have you heard some of your neighbors say, within twenty-five years, that on the land that was in grain last summer and laid to grass in the fall, they forgot to

Sow CLOVER seed in the spring. There are hundreds of acres now lying within a few miles of us, which were laid to grass last fall, where it is the intention to sow clover seed

about the first of April. How many will be forgotten? This work should be done early. Sometimes it is done on the late snow, when the seed can be seen as it scatters, which is quite an assistance in getting it evenly distributed.

MOWING FIELDS ought to be visited and all brush from apple trees and rubbish of every kind gathered up so as to have clean work in haying.

DRAINS. Where drains are laid, each outlet should be examined to see that it is open, as frogs like to occupy them, and where water backs up grass and small sticks are likely to accumulate. It will be well to look at the whole line of the drain to see that it is in good order.

STONES on lands laid down last year ought to be taken away. It is not a mark of the best husbandry to see them standing in miniature pyramids all over the field. They are greatly in the way when mowing with a machine and when raking up the hay. They also occupy valuable ground, and often get scattered about again.

PLOUGHING. Soils ploughed while they are wet and heavy are likely to dry in lumps which become hard and are then unfit to prepare food for plants. If ploughing is delayed until the surface soil is sufficiently dry to fall to pieces when turned over by the plough, it will remain in that friable condition through the summer. It will then allow rain to pass freely through it, catching the ammonia contained in the rain, and letting in the air to give breath and activity to the soil. It seems better to be a little late in ploughing, than to plough when the soil is too wet. Plough deep should be the rule, excepting on lands that are mostly sand.

BARLEY AND OATS afford better crops when got in early in April, if the soil is in suitable condition. It is a singular fact, that these crops rarely do as well if sowed as late as the middle of May as they do put in by the middle of April. There is something in the temperature of April congenial to them which they miss in late sowing.

THE DOOR-YARD is an index to the farm. There will be little need for the traveller to pause and visit the barns and fields. He may find the counterpart to them around the house.

THE WOMAN need machines of some kind in the house, as much as the man does in the

fields. A good husband, who regards his wife and children as his greatest earthly good, will consider their wants, and supply them, so far as in his power. It is hard to keep the bloom and elasticity of youth, with the physical powers worn with too constant labor, and the mind perplexed with ceaseless cares and petty annoyances. Sweet tempers and sunny smiles in the household are worth more than bank shares or United States bonds, even at gold interest.

ESSEX COUNTY, MASS.

We always look over the Transactions of the Agricultural Society of this county with great satisfaction. There are no records of big purses awarded to the owners of fast horses; no items of money expended on the grading or repairing of "the best Track in the State," nor for fitting up the Grand Stand, or for keeping in order expensive buildings used only two or three days in a year; and, perhaps stranger than all, in these progressive days, no appropriations for the payment of the debt of the association!

But we do find statements of premiums paid to exhibitors in the amount of \$1183.50; of funds in the hands of the treasurer amounting to \$13,066.24, which was increased by the sum of \$386.14 the past year. The society also owns a farm worth \$7000; a valuable library, and the necessary fixtures for a genuine old fashioned rotary Cattle Show, to which the farmers of the whole county contribute; while most other counties in the State, in which the parent society has put up permanent buildings with the ubiquitous half-mile track and other local fixtures, have been divided and subdivided, until there are from two to six societies in each county.

Aside from all this, the addresses, reports of awarding committees, statements of competitors for premiums, &c., are more instructive and satisfactory than those given in the Transactions of most other agricultural societies of the State. The following are the officers of the Society for 1871:—

President—William Sutton, of Peabody.
Vice Presidents—Geo. B. Loring of Salem; E. G. Kelley, of Newburyport; John Keeley, of Haverhill; Benjamin P. Ware, of Marblehead.
Treasurer—Edward H. Payson, of Salem.
Secretary—Charles P. Preston, of Danvers.
Trustees—One from each town, and as Honorary Trustees, J. W. Proctor, of Peabody; Allen W. Dodge, of Hamilton, and Joseph How, of Methuen.

At a meeting, Nov. 15, the Trustees voted to continue the offer of fifty dollars for a scholarship in the Massachusetts Agricultural college to any young man of the county who can pass the required examination.

ASHES OF HARD AND SOFT WOOD.—It is generally supposed that the ashes of pine wood is not so rich in alkalis as that of hard wood. In his "Muck Manual," Dr. Dana says that, "in equal

weights, pine ash affords four times more alkali than the ash of hard wood." At the same time a bushel of hard wood ashes yields more alkali than a bushel of pine wood ashes; the ash of the pine being much the lightest. According to analysis only about $13\frac{1}{2}$ parts in a hundred of hard wood ashes are "soluble," while of the yellow pine fifty parts are soluble.

We mention this as there is frequently a neglect in preserving the ash of soft woods, under the idea that it contains very little potash. In many towns, where large quantities of lumber are sawed out, hundreds of cords of saw dust are lying waste. We know of a single lumber yard where there are probably thousands of cords. Would it not be economical to set suitable heaps on fire, for the value of the ash which would be left, although the quantity of ash from pine is much less than from hard wood?

OFFICERS OF AG'L SOCIETIES.

CONTOOCOOK, N. H.—Annual meeting at Hillsboro' Bridge. The treasurer reported \$693.12 on hand.

President—Moody Melvin, Antrim Branch.

Vice Presidents—Erastus H. Bartlett, Deering; William Merrill, Hillsboro' Bridge.

Secretary—Daniel Johnson, Weare.

Treasurer—Edwin B. Morse, Hillsboro' Bridge.

WHITE RIVER VALLEY, VT.—*President*, Dudley C. Denison, of Royalton. *Vice Presidents*, R. H. Tupper, of Rochester, and Wm. C. Danforth, of Barnard. *Secretary*, Lorenzo Kent, Woodstock. *Treasurer*, Merrick Sylvester, Bethel. *Auditor*, G. E. E. Sparhawk, Gaysville.

NORTH PENOBSCOT, ME.—*Pres.*, W. R. Hersey; *Sec.*, E. A. Clifford, Lincoln.

NOBLESBORO CLUB, ME.—*Pres.*, J. F. Sanford; *Sec.*, J. B. Ham.

SIDNEY CLUB, ME.—*Pres.*, W. A. P. Dillingham; *Sec.*, J. S. Grant, Sidney Centre.

SOMERSET CENTRAL, ME.—*Pres.*, Hon. A. Coburn; *Sec.*, W. B. Snow.

A HINT ON HORSE-SHOEING.—A writer in the *Western Rural* says that a horse's shoes can be kept sharp at about one-half the usual cost by having the smith drive a small piece of cast-steel into each heel calk, and two into each toe. They can be cut conveniently from a strip of steel five-eighths or three-fourths of an inch wide, and can be easily put into the toe calk while the shoe is being made. After the shoe is fitted, the calk should be hardened so that the steel will be as hard as a file.

EDUCATION.—In a speech recently in the House of Representatives at Washington, by the Hon. GEORGE F. HOAR, of Massachusetts, to establish a system of national education,—he said: "The best education is that which an individual derives from himself. Next to that comes the education of the family. Next comes that administered and controlled by the districts or the towns."

In a brief reference to agriculture he said:—"Agriculture has ceased to be a mere toil of human

muscle, and has become a competition of science and intelligence."

The purpose of Mr. Hoar's bill is to establish by national authority a common school system which shall instruct all children of school age in the ordinary knowledge of reading, writing and arithmetic, in those States which fail or refuse to make such provisions by State authority. It would seem that some such coercion as this is absolutely necessary, if as shown, some five or six million of our adult population are unable to read and write.

EXPERIMENTS IN FEEDING HOGS.

Hon. L. W. Stuart, of Monmouth, Iowa, sends *The Prairie Farmer* the following account of careful experiments in swine fattening, made by himself last fall. It will be found of great interest, and will tend to settle some hitherto unsettled points in feeding. Mr. S. says:

I commenced my experiments October 24th, 1870, by weighing twenty hogs. With the exception of four, they were one year old in October and September. They had been fed two weeks previous to weighing for the experiment. The weight was 4,070 pounds. They were put upon the scales and weighed every Monday morning during the experiment. There was also an accurate account kept of the feed consumed each week, reckoning 56 pounds for a bushel of corn or meal. They were fed in a floored pen, and in troughs so arranged that no feed was wasted. Their sleeping apartments were also well provided with wheat and straw. They also had the range of a small lot. When they were fed on dry feed they were supplied with plenty of water. They were fed regularly three times per day. The experiments were continued for seventy days, closing on the second day of January, 1871; which day I sold them for five cents per pound. I take this as a basis for calculation in making up my estimates. The sum total in corn consumed in conducting my experiments the seventy days was 232 bushels. The net gain on the twenty hogs was 2,817 pounds, a trifle over two pounds per head per day. The weight at the time of selling was 6,887 pounds. The result of feeding was as follows:

They were fed twenty-eight days on dry shelled corn, and consumed eighty-three bushels; made a net gain of 837 pounds, which is equivalent to 18.00 pounds per bushel, which sold my corn thus fed, at fifty cents and four mills per bushel.

They were fed fourteen days on meal, ground fine and fed dry, and consumed forty-seven bushels; made a net gain of 553 pounds, which is equivalent to 11.76 pounds to one bushel of corn, which brought my corn to 58 cents and 8 mills per bushel.

They were fed fourteen days on meal mixed up with cold water, and consumed 55 1-2 bushels; made a net gain of 731 pounds,

which is equivalent to 13.17 pounds per bushel. In this trial I realized for my corn 65 cents and 8 mills per bushel.

They were fed fourteen days upon cooked meal, and consumed 46 1-2 bushels; their net gain was 696 pounds, which is equivalent to 14.96 pounds per bushel; this sold my corn for 74 cents and 8 mills per bushel.

Taking the two extremes, I find I got 24 cts. and 4 mills more per bushel for my corn by grinding and cooking, than when fed whole and raw. After deducting one-seventh for grinding, leaves 21 cents per bushel.

Had I ground and cooked the feed for my 20 hogs, I find I would have made 663 pounds more pork than I did, which would have given me \$33.00 more.

I find it will require 345.51 bushels of raw corn to make 3,480 pounds of pork, and only 232 bushels when cooked—a difference of 112.6 bushels in favor of cooked feed.

HOW TO LOAD A WAGON.

Some three or four weeks ago the question was asked whether a wagon should be loaded heavier on the hind than on the front wheels. Your reply, though not asserted to be conclusive, implied that the load should be equally distributed. I propose a scientific elucidation of the subject, which will prove that the load should be heavier on the hind wheels, in the proportion of their diameter to the diameter of the front wheels.

A wheel is a lever, whose long arm, theoretically, is the distance from the ground to the centre of the axle; the short arm is a pivot; but, practically, it is impossible to construct a lever of such proportions. Hence, in calculating the advantage of the lever, a wheel or a lever, allowance must be made for the size of the axle, and for friction dependent on size, other things being equal. Without going into too elaborate a discussion, it will be sufficient to say in general terms that the power gained by a wagon wheel is in proportion to its semi-diameter, and hence that the load on a wagon should be placed proportionally to the diameters of the front and hind wheels.

Suppose the front wheels are four feet, and the hind wheels five feet in diameter—then five-ninths of the load should rest on the hind wheels and four-ninths on the front wheels.—*Cor. Rural New Yorker.*

GLASS-BLOWING.

The juvenile mineralogist, constructing his first cabinet, brings home, as a rare curiosity, a crystalline stone which shines like glass. It is glass—the glass of nature, the foundation of much of modern civilization and science, without which neither astronomy, chemistry, nor physiology could ever have emerged from their crude condition, since without it neither the telescope, nor the chemist's vessels would

have been possible. Subjected to an intense heat, and mixed with other substances, such as soda, lime, oxide of iron, oxide of lead, oxide of tin, according to the fabric to be wrought, it becomes ductile, is drawn out into the most tenuous threads, is rolled, beaten, moulded, cut at will, yields to even the slightest breath of the workman, and, patterned by him, takes any form he chooses to impart to it. Cooling, it loses its curiously ductile character, and becomes again the hardest and most brittle of substances. This quartz rock the boy fancies to be a precious stone. He is laughed at for his wild conjecture. It is a chance if he be not nearer right than those who ridicule him. Colored in nature's marvelous dye-house, it becomes precious only because it is more rare. Violet, it is an amethyst; uncrystallized and waxy in its structure, it is a chalcedony; red, it is a carnian; of variegated colors, it is an agate; opaque, and yet colored, red, yellow, brown, it is a jasper. In a word, the same substance which is the chief component of glass is also the base of most precious stones, yet in its commonest form most precious of all; for we might well relinquish jasper, agate, chalcedony, and amethyst for glass, if we could obtain the latter only by such an exchange.—*Harper's Magazine for February.*

EXTRACTS AND REPLIES.

COWS EATING UP THE BARN! HEREFORDS AND DURHAMS.

My cows will eat pieces of wood and tear shingles off the walls of my barn when in the yard. They seem healthy and are in good condition. What is the cause, and what is the cure?

Do you consider Herefords superior to Durhams for the general keep or feed of New England farmers? I do not see much in the *FARMER* as to their quality or where most kept.

NEW SUBSCRIBER.

York County, Me., Feb. 13, 1871.

REMARKS.—We must refer you to some remarks in our last paper on "Why do Cattle Eat Boards?" for our reply to your first question.

As to the second question, our first remark is that there is a sort of *fashion* about the different kinds of stock. Each kind has its admirers, and it would be difficult to convince one that there is anything better than his own. According to some who have claimed large experience, the Hereford cow has little reputation as a milker. The milk is rich, but too little of it,—not much more than to rear her calf in good condition. As a working ox the Hereford is the peer of any other, and superior to most, according to Mr. L. F. Allen, in his *American Cattle Book*. As a beef animal the Hereford is superior. They feed kindly, are thrifty in growth, mature early—at three and four years old,—and prove well on the butcher's block. And we have heard experienced Brighton butchers say that crosses of the Hereford afforded a larger pro-

portion of the choice parts of beef than he found in any other animals, pure blood or grade.

Short-horn cows (Durhams) are considered excellent milkers. The same authority quoted above says, that the *inherent* quality of abundant milking exists in the short-horns, no intelligent breeder of them need doubt. He says:—Some breeders contend that the thoroughbred short-horn ox is as good a worker as any other; but the weight of evidence does not confirm the assertion; still, they do work, and that quite tolerably, but they have neither the wind, speed, or bottom of the lighter and more active breeds.

As a beef animal it can scarcely be surpassed. It is held that, as a flesh-producing animal, in early maturity, weight of meat, ripeness of points, and giving the most flesh in the best places, the great merit of the short-horn is found. Every part is wonderfully filled. Choice flesh is put on in places where the common cattle fail to give it, and making the animal valuable all over, with no more of fat than in a creature of a third less size of an inferior breed. There are comparatively few Herefords in New England, while there are many short-horns in every part of it.

There is probably more Hereford blood in the stock of Maine than in that of any other Eastern State, and we shall be glad to publish the result of the experience of the breeders there, as a fuller reply to your question.

Hall C. Burleigh, of Fairfield, in your State, breeds the Herefords.

MASSACHUSETTS' PERCHERONS.

Some eight years ago, I think, the State of Massachusetts imported two stock horses from the coast of France, called the "Percheron Stock." As much was said at the time as to the great merits of said stock for "all work," I would like to know how said stock has proved with you?

Kennebec Co., Me., Feb. 14, 1871. L. E. G.

REMARKS.—You allude we presume to the importation, in 1864, by the Massachusetts Society for Promoting Agriculture, of two stallions and three mares of the Percheron breed. Though, as you remark, "much was said at the time as to the great merit of this stock," we believe the annual sales of the stock held by the Society, at their stables, on the Bussey Farm in Roxbury, show a steady and of late a rapid increase in the popularity of this stock. Last year there was a larger attendance and we believe much higher prices were obtained, than ever before. The following are the sales of last year:—

Stallion Orleans, 10 years old, imported in 1864 by the Society, for \$700, to A. H. Seabury, of New Bedford; stallion Napoleon, 5 years old, for \$1000, to W. A. Woodsworth, of Boston; imported mare Empress, 10 years old, in foal to Napoleon, for \$330, to Francis Dame, of Boston; a three-year-old filly, from Empress by Orleans, for \$450, to the same; a two-year-old filly, out of Empress by Conqueror, for \$330, to the Society; the mare Sultana, in foal to Orleans, for \$110, to J. H. Stone, of Boston; a yearling filly, out of Sultana by Napoleon, for \$300, to S. Boyd, of Boston, and a gray

mare by Conqueror, owned by Mr. T. J. Coolidge, for \$500 to Dr. Burnett.

The "Conqueror" here mentioned was one of the stallions originally imported, "Orleans" being the other. The last we heard of Conqueror was in Skowhegan, Maine, having been sold some three years ago. One of his colts was sold about two years ago for \$1400, when two years and nine months old, at which time he weighed 1510 pounds.

Having thus answered your inquiry as well as we can, will you inform us how Conqueror's stock is proving with you in Maine?

DRYING OFF COWS.

I have a five-year-old cow that last year I milked till within three weeks of her calving, when finding that the milk was not good, I quit milking. Now her time will be out in about four weeks. I have milked once a day recently and she gives two quarts a day or more now. I know of other similar cases. What can we do to dry her off? H. M.

Westfield, Vt., Feb. 20, 1871.

REMARKS.—By milking less frequently and not quite clean, and by avoiding special milk producing food, there is seldom much trouble in drying off cows. Your cow was milked last year within three weeks of calving, and we think she will be likely to give you little trouble after about that time this year, as this is very much a matter of habit. Still as the milking qualities of our cows are largely artificial they must be watched and treated according to circumstances. Sometimes it is advisable if not absolutely necessary to relieve the distended udder by milking a cow or heifer before calving. In their natural state cows give comparatively little milk. We understand this is the case with Texan cows, and that owners of large herds there buy northern butter for their families, and probably farmers there have no trouble in drying off cows.

BEST FEED FOR CATTLE.

Seeing an article in the NEW ENGLAND FARMER of January 14, taken from the *German Town Telegraph*, I beg to give my experience in feeding milking cows, which process may somewhat differ from the modes of some of the readers of the FARMER.

Every year I grow oats on good rich land exclusively for milking cows and yearling calves. I cut the oats green as soon as in the dough. I sow rather thicker than if for thrashing. I let them lie on the ground for a few hours to wilt, and then turn them with a rake. In fine hot, dry weather they will be in good condition to stack or put in the loft in two days. I work them similar to hay, only I don't scatter out the swath, lest the more mature oats be shelled out.

To my milking cows I feed out this fodder every day, with corn stalks, cut while the stalk is still green. I also give each cow daily, a bucketful of boiled pumpkins mixed with wheaten bran, raw pumpkins, marigolds, white stone turnips or Sweeds. I tie up all my cows, working oxen, yearlings and calves, before sun down, in a good warm, comfortable stable, with hay loft over. I allow each cow four feet, and bed all same as horses. I tie up calves so as when older there is no trouble to teach them.

My mode of tying up is to fix a young oak pole fast to the floor, and secure firmly to the joist over head. On the pole I have a ring that plays up and

down easily as the cow moves her head, or gets up or lies down. My cows milk well, and look well, and are in good order for the butcher. I am quite satisfied that the oat feed is better for milking cows than hay. Sometimes I change their feed—give more bran and boiled pumpkins and less roots; and then less of the former and more of the latter. I boil the pumpkins fresh every day, and *scald* the bran *always*. I salt the cattle regularly and turn them out every day if not too stormy. I grew upwards of thirty tons of pumpkins, a part of which I stowed away in a cellar where no frost could reach them, the balance I put in an old wheat-stack, by making a cavity in the centre, leaving about four feet on the outside. After filling the cavity, put poles across and covered well with straw, leaving at one end a hole large enough to roll out the pumpkins, and stopping it up each time. None have been frozen at all. I am still feeding them, and find a few rotten, but the others are as hard and firm as when first put in.

In the fall I gave my cows ox cabbages,—grown from seed I imported direct from England. Cows will milk better on cabbage than on any other green food. In very cold days I give milking cows a few mullins of corn each; but they generally prefer pumpkins raw to oats, corn fodder or anything else. I always milk my cows up to the day of calving if I can get any milk, and I don't see that it has injured them a bit. I have now the finest six-month calf in all this neighborhood, from a young Durham and native cow, and she was milked up to within twelve hours of her calving.

JOHN WHATMOKE.

Bridgnorth Farm, Ill., Feb., 1871.

RABBIT BREEDING.

You will oblige a constant reader of your valuable paper very much, if you will publish in your next issue, something of an account of how rabbit breeding is carried on in London, Canada, an item concerning which you published in your paper of February 18.

Please tell me first, what sort of a warren is required, whether wooded or not,—soil hard or soft? Next what kind of rabbits are raised, whether "fancy stock" or common rabbits, for an article of food, and lastly where is there a market found for their consumption? R. C.

Miford, Mass., Feb. 8, 1871.

REMARKS.—We are unable to furnish the desired information. We copied the statement from some other paper, and perhaps by publishing our correspondent's inquiries, some other paper or person will respond. We have somewhere seen the statement that three years after some Englishman put thirteen rabbits on his run in Australia, they had multiplied to such an extent that the destruction of 100,000 at a cost of \$35,000 did not appear to thin out the pests. How will this rabbit story balance the other one?

BOTTLING CIDER.

In reply to your correspondent who asks how to preserve cider by bottling, I will say I think the best way is to leach or filter the cider through sand, after it has worked and before it has soured. Put no alcohol or other substances with it. Be sure that whatever casks, barrels or vessels you put it in, are perfectly clean and sweet. After it is leached or filtered, put it in barrels or casks filled, leaving no room for air; bung them tight and keep it where it won't freeze till February or March, then put it into champagne bottles filled, drive the corks and wire them. It should be done in a cellar

or room that is comfortable to work in. The best cider is late made, or made when it is as cold as can be and not freeze.

Prepared in this way, you may keep it for years, and at any time you may pull the cork, if it don't fly when the wire is loosened, and in a short time you will have pure cider vinegar, if it is not drank. The cider should be kept from air and heat to prevent it from souring.

It is not every sand bank that will answer for filtering cider. The sand must be pure, and not impregnated with any deleterious ingredient, as the cider will take it up. H. C.

Woodville, Mass., Feb. 21, 1871.

REMARKS.—Since receiving the foregoing valuable communication, we have had the pleasure of meeting the writer and of testing cider prepared and bottled as directed. Without claiming to be an expert in such matters, we can say that it was excellent. He also showed us some of his vinegar. It was clear and sharp.

CULTURE OF THE OPIUM POPPY.—EVERLASTING FLOWERS, &c.

Will you be kind enough to print an article concerning the culture of the opium poppy, and the right way of gathering or manufacturing the opium for market?

Would there be any opportunity to sell or dispose of everlasting flowers and ornamental grasses? They could be shipped anywhere, and the grasses dyed any color. We have raised very fine varieties, and I see that florists offer them at high rates. Please print soon, as we would like to order some seeds. E. N. S.

Vermont, Feb., 1871.

REMARKS.—Opium is obtained by making incisions into the seed-vessels of the poppy-plant when they are nearly ripe, allowing the milky juice which exudes to thicken upon them for twenty-four hours, then scraping it off. The incisions are made downwards, through the outer skin only.

Allow us to suggest, that if you will carefully read De Quincey's "*Confessions of an English Opium Eater*," you will never raise a poppy for any other purpose than as an ornamental flower in the garden.

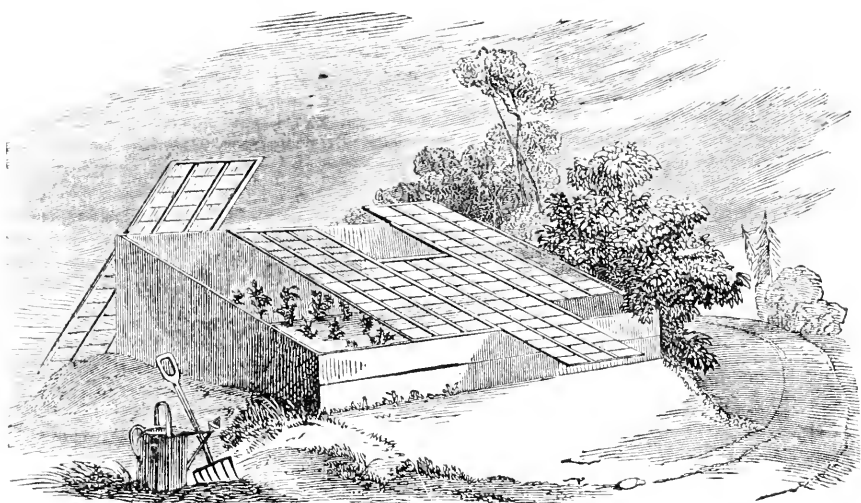
We have no doubt you may find a demand in Boston for all the ornamental grasses you have to spare, if skillfully arranged in bright colors.

HOW TO PREVENT HENS FROM SITTING.

In an essay on "Poultry," in the NEW ENGLAND FARMER of November 26, it was stated that hens inclined to sit could be broken up in two days. Can any one of your correspondents inform me through the columns of your interesting paper how this is done? A SUBSCRIBER.

Westfield, Mass., 1871.

REMARKS.—To prevent hens from sitting when you do not wish them to, watch them carefully, and at the first indication of sitting shunt them up by themselves, where they cannot get upon a nest. At any rate, they must not be allowed to remain on a nest overnight. This is Mr. Brown's practice, who wrote the essay alluded to, and that of many other good poultry raisers in his neighborhood and seems to be a successful one.



HOT BED.

For the New England Farmer.

For the benefit of new readers I will repeat directions given some years since for the construction of the hot-bed. The frames should be made of good one and one-half inch stuff, with iron loops as tenons, on the side pieces, to pass through mortices in the end pieces, at the corners; and be fastened by inserting wooden keys through the loops. Let the front side of frame be one foot high, and the rear side two feet, with ends sloping to match, and rabbeted for the sash to slide on, over the front side, shutting against the back level with its top. Make it of any desirable length to receive any number of sash, three feet wide, and the frame as wide as you desire the bed, calculating from the size of glass used in the sash. Cross bars will be needed for the sash to rest and slide on, and cleats at the end, a few inches above the level of the bed, for a plank to rest on for convenience in weeding, &c. Good firm well glazed sash, for covering is needed. The frame is made with close, or battened joints, so as to exclude all cold.

A somewhat protected location is selected for the bed, well exposed to the sun during the day. Dig a trench running east and west, eighteen or twenty-four inches deep, a foot longer and wider than your frame; fill this to the depth of two feet with fermenting manure, mixing in, as you build it up, leaves to insure the prolonged heating. Let this bed of heating material be evenly laid up to insure evenness in settling, and compact it with the back of the fork. On this set your frame, driving stakes at the corners to hold in place, and bank up around the outside with soil; put on your sash and let it heat a day or two, and then fill in six inches of your prepared sifted

soil, spreading it evenly over the manure, inside the frame; replace the sash and let it heat till the heat begins to subside and has fallen to about 85°, when you may sow your seeds in rows from front to rear. I should have said above the frame should face the south. Sowing the seed before the heat has reached its height and begun to subside is often the reason of seed failing to come in the hot-bed.

The care of a hot-bed is only learned by experience. Often a few moments neglect in mid-day suffices to destroy all previous care and fine prospects, or a cold night will kill the young plants unless the bed is protected. With proper care they are excellent to forward many plants that may not be had in any other way so easily.

W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

TOP DRESSING vs. PLOUGHING UNDER.—No. 2.

It is a fact, undisputed so far as I know by scientific or practical men, that lands worn out by long continued cultivation and light manuring, may be planted with forest trees; or a spontaneous growth of wood may be allowed to overspread them, and they will improve in fertility; at first slowly, but more rapidly as the trees advance to maturity and the annual crop of leaves becomes greater. The valleys and depressions that always abound in every considerable tract, will receive more than their portion of the yearly crop and improve more rapidly than the elevations; but every part will be found advancing in richness and will again become "virgin soil."

Now, if, according to the theory of some farmers whose opinions upon matters of agriculture are entitled to consideration, manures, fertilizers, or whatever we choose to call that with which we feed the soil and prepare it for the crop, pass into the atmosphere and are lost rapidly when left upon the surface, how is it that such lands regain their primitive richness by the decomposition of the annual fall of leaves? According to their theory, as soon as decomposition has taken place, and the rains have dissolved the soluble particles thus produced, they should pass off by evaporation and be forever lost. The land, should, therefore, not only grow no richer, but annually poorer by the constant extraction of nutritive matter from the soil by the growing trees. The inevitable result would be decay and final death of all forests, whether of the secondary kind under consideration or the primary, should such a law be enacted; nay, all vegetable life not under the immediate, constant care of man would share the same fate. Of course such a theory must be fallacious.

Thus in the natural renovation of soils exhausted through ages of improvident husbandry we see a wise provision of the Creator by which they may again be made to blossom as the rose, and yield their increase to generations of men far down in the future. It must ever be impossible to know how many times this alternation has been repeated in the old world since man became a cultivator of the soil, voluntarily by the abandonment of worn out lands, or forcibly by some great epidemic or natural convulsion that destroyed whole populations. Each successive race of cultivators found "new land" in all its vigor, though it might have been the twentieth time such land had been peopled and cultivated. Already has such alternation begun in New England in small districts, upon hills first settled and now worn out by long continued cultivation. The inhabitants are gone; the land is abandoned for the purposes of cultivation and is being overrun by trees and brush.

If, then, these views be correct, it would seem that no alarm need be felt that manures left upon the surface can be lost by evaporation; nor that nature, always doing her work in the best manner, has here given a great example that is not worthy of imitation.

The views herein set forth have guided me in the cultivation of my small tract for several years; and under the new regime my lands have perceptibly improved, and my crops proportionally increased. My method is this: Next spring I shall plough up a piece of greensward, manure the surface, harrow thoroughly and plant. The next spring the same process will be repeated. The third year the land will be ploughed, manured very liberally and harrowed thoroughly; then sowed with oats or barley, and grass seed and harrowed, the inequalities about the margin and other places being levelled with the hoe. I have

little trouble by lodging when my oats are sowed early, and generally have large yields. In 1869 they stood from four to five feet high and well filled; stalks could be pulled up five and one-half feet long. Last year they were nearly as heavy. They are the common oat.

Grass is a very important crop in New England and throughout the North. If our object be grass, and we attempt to bring our farms to a high, productive capacity by ploughing manure under, we shall be disappointed. Before reaching the last acre of arable land, the first is crying for help and requires immediate attention. If surface manuring is adopted and it is desirable to plough largely, a better result will follow, two loads being equal to three ploughed under.

In top dressing ploughed fields it is desirable that manures be well rotted, but not indispensable. I have used green stable manure in seeding down with good results. c.

Wilmington, Vt., 1871.

For the New England Farmer.

RAISING TOMATO PLANTS.

I do not propose to teach old professional gardeners anything about the management of hot-beds, or the raising and selling of plants. They have large propagating houses, and heated water-pipes, where the work can go on through all kinds of weather; but from which large sales must be made in order to pay for fuel and interest on buildings, fixtures, &c. There are farmer's sons living near villages, all over New England, that might, after a little experience, obtain a better income from a few rods of ground near the farm buildings, than their fathers get from some of their *acres*.

Tomatoes are used now in almost every family. Many people set a dozen plants annually who have not room for much else in their small gardens. In order to have a full crop from the plants, they must be started under cover before the weather outside is warm enough to grow them. Many farmers' wives start a few in some south window of the kitchen, and have very good plants. Many fail, however, by planting too early in the winter, by putting in too many seeds for the room they have, and by not transplanting at the proper time.

I want my frames made and the holes dug the fall previous, and a few loads of suitable soil placed where I can use it about the last week in March. I have seldom planted the seeds before the first of April, and never would for my own use. But village gardeners are apt to be in a great hurry in the spring to get their gardens under way.

By planting a few seeds for very early plants, one often has a chance to sell his village customers two lots of plants in a season. I know of men who always buy the first plants they see for sale. They are the ones who generally buy twice. It is seldom safe to put

the plants out till after the 25th of May, and the first week in June is preferred by many who get their fruit as early as those who set a fortnight earlier.

Horse manure is the main thing to depend upon for heat. It should be saved separately from other manure and not be allowed to heat very much during the winter. A few days before wanted it must be forked over and thrown up in a high pile so as to induce fermentation. It may be necessary to work it over two or three times. When well warmed up it may be put in the beds.

Many beginners fail by not having the manure deep enough in the beds. If for the earliest planting, I want it at least twenty inches deep after it is well settled and gently trodden down. Others fail by having their beds where water can get in and cool the manure. If the manure is put below the surface the soil should be well drained. After the manure is deep enough and well levelled off, there should be from four to six inches of good soil laid over it, in which to grow the plants. The deeper this soil can be and not smother the heat in the manure below, the less care will be needed in watering the plants. I used to have bad luck with my plants by using a poor quality of soil in which to grow them. If it is very loamy the plants are apt to "damp off" after being watered, especially if the weather is such as to require the beds to be closed.

I now use a compost made of the top soil from the last year's beds, with enough of the old manure from the bottom to make the soil quite rich, and add clear sand enough to make the whole light and porous, so that it can never bake in the sun nor hold enough water to rot the plants. I think I use about one-third sand, one-third old soil of last year and one-third old manure from last year's beds, which make the new soil about half manure and half sand. In such a soil plants grow right along. If one wants to sell plants that he can warrant true to name he should save his own seed.

I buy some new kind nearly every year, but am often disappointed. The Lester's Perfected and the Tilden are about good enough. The main thing is to have them of good size, smooth and tolerably early. The books say let the bed remain a few days to warm up or to let the greatest heat pass off before sowing the seed. I generally sow the same day the bed is made.

When the young plants begin to appear above ground is a critical time with them. An hour of hot sun on a closed bed will often kill the whole. They must be watched pretty closely for a few days, and the sashes will sometimes need moving several times in a day. This is work that can only be learned by experience; but after a while one can tell at a glance if the plants are needing protection or air.

I find it less trouble, and get better plants to make a small seed bed and start them very thickly. Then as soon as they are well up and growing, begin to make a much larger bed with a less depth of manure, and when the top soil of this gets well warmed up, and the plants have on their second leaves, I transplant them all into the new bed, setting them about one-half under ground. Then shade a day or two, but am careful not to water much till the plants commence to grow. After the plants get to be four inches high, and too thick to grow strong, I again transplant into a still larger bed, and as the season has advanced less heating manure will be needed, and almost any sort of old sash will answer.

I think I get very much better plants by transplanting them two or more times, setting their stems about two inches under the soil every time. I take up the plants from the first bed, sort them over, throw out all weeds, put their roots in a pan of water and let them stand till they take up water enough to make them firm and crisp; then, beginning at one end of the new bed, I make with my hand a little trench across it, lay the plants in two or three inches apart and an inch or two deeper than they were before, about as fast as one would drop peas, and with one stroke of the hand the dirt can be moved over the roots. It should be gently pressed down, then go on as before and finish the bed. After shading a couple of days at most, I water the bed toward evening and the next day give air, and find my plants growing and looking nearly as well as before transplanting. All of the stem that is put under the ground will throw out new roots, making the plants many times stronger than if they had stood in the bed where they were planted.

After they have been transplanted two or three times in this way they may be taken up and after wetting the roots planted out where they are to stand, and every one warranted not only to live but to grow, even if set in the middle of a hot day; or they may be laid into boxes as thickly as they can be packed and their roots covered with dirt, well watered and carried to the village for sale, in a hot sun, without scarcely wilting.

If plants are to be sold early, before it is time to put them out, it is well to put them in boxes of one or two dozens at the second transplanting. After the boxes are filled they are placed on a heap of warm manure for a few days to let their roots get warm, after which they will do well in cold frames. If put in boxes, the boxes must be moved away from each other as the plants grow. A good plant must have room to grow.

I do not want anything better for a tomato plant than one six inches high, broad and stout, with from six to ten times its natural supply of roots, and I do not care for it till the first of June. Then I would set it in a good shovelful of old well rotted manure

placed on a high, dry, gravelly or sandy knoll.

If the little flea beetles attack the plants cover with ashes, plaster of Paris or air slacked lime. Too much ashes or lime may injure the leaves; if the beetles stay, they surely will. If the cut worms gnaw off one plant a new one must be set in its place.

I have not tried to give the whole process of making or managing a hot bed, but to give my own mode where it differs from that of others, and to show wherein beginners are most apt to fail.

A. W. CHEEVER.

Sheldonville, Mass., Feb. 29, 1871.

For the New England Farmer.

IMPORTANCE OF DRAINING.

The practice of draining wet lands and swamps (where a superabundance of water lies on the surface or near the surface,) does not receive the attention that its importance demands in this country. I venture to say there are no improvements that can be made on many farms in New England and elsewhere, that will add so much to the productive capacity of the land and revenue to its owner as underdraining, which has a great advantage over open drains, when outlets for the drains can be secured to advantage; for in this case large fields can be relieved of surface water without the obstruction of an open drain to the plough, cart or wagon. On farms where an abundance of stones are convenient to the land to be drained, and which the farmer wishes to rid his lands of, they may be used to advantage, but in the absence of stone, tiles are the cheapest and make the most durable drains. In this locality the manufacturers sell them for twenty dollars per thousand for two-inch, which is a trifle more than thirty cents per rod, delivered at the manufactory, and for three-inch tile the price is twenty-seven dollars per thousand. Very little beside two and three inch tile are used for common draining, the three-inch for the main, and two-inch for the laterals. Mr. John Johnston, the grand old Scotch farmer of New York, well knew what his tile would do, when his neighbors asked him what he was laying his crockery in the ground for. He knew his land would be improved from one to three hundred per cent. I once heard a traveller, (a professional gentleman of extensive observation) say that in passing through England on all the great thoroughfares he saw large piles of tile for underdraining the soil.

England, Scotland and Ireland are far in advance of us in the art of draining, but I think the day is not far distant when the wet lands of our farms will be thoroughly drained, so as to produce an abundance of grass and grain.

Mr. Editor, I give you a little experience I had some years since in draining. In the year 1850 I ploughed a lot of clay loam soil with a heavy clay subsoil. There were about five acres, and it was ploughed about the 12th of

May, for corn. It rained almost daily for two or three weeks, which caused a good stream of water to run through a low part of the lot, consisting of about one acre. It was so wet that I could not plant it till the seventh day of June. The corn was very light on the low ground. The next year (1851) it was sowed with oats, and seeded with timothy and clover, and on this acre of said land the crop was almost a total failure. That same year, after the oats were harvested, a ditch was dug from two and a half to three feet deep through the centre of the low land, it being about sixty-three rods long, three inch tile was laid about fifteen rods from the outlet, and the remaining distance was laid with two inch tile. The following year it was mowed, and the crop on that underdrained was much the heaviest of the field, yielding two or three tons per acre of good sweet hay. The drain has worked admirably to this day. The surface water never standing on it more than twelve to fifteen hours after a heavy rain. I think the increase of crops more than paid the expense in the two succeeding years. The past Autumn was very favorable for draining, and I improved it by draining some swamp land with tile, except some of it which was so mucky that I used round stone from the Deerfield River, the result of which I cannot speak of now.

I would say to all farmers who are troubled with a superabundance of water, underdrain, by all means, if you can find a good outlet for the water, and you will not be disappointed, if you do the work thoroughly.

JAMES CHILDS.

Deerfield, Mass., 1871.

UTILIZING BONES.

If a farmer has collected a pile of bones which he desires to fit for plant food, he can accomplish the end in two or three different ways: 1st, by dissolving them in sulphuric acid in the raw condition; 2d, by dissolving after burning to whiteness; 3d, by dissolving them in connection with caustic lye from ashes and soda.

Bones cannot be dissolved in acid economically, unless they are reduced to a fine powder. Pounding them into small fragments will not do, as but a part of the bone substance can be acted upon by the acid when fragments are submitted to its action. An insoluble coating of sulphate of lime forms around each fragment after the first action of the acid, and this arrests further decomposition. As a matter of experiment, we have submitted powdered bones to the action of strong and dilute acid, for six months, and the solution at the end of that time was far from being complete.

Raw bones are very difficult to grind in any mill accessible to farmers, and therefore it will be best, if it is desired to make "superphosphate," to construct a kiln of stones,

throw into it the bones, along with sufficient wood to kindle them; and by igniting the wood, the bones will readily take fire and burn to whiteness. In this state they are brittle, and can be ground in a bark, plaster or grist-mill. The organic matter, or the gelatine, is destroyed in this process, and the bones lose about twenty-seven per cent. in weight.

To convert the bone ash into superphosphate, procure two or three good sound molasses casks, divide them in the middle with a saw, and into each half put two hundred pounds of the powder moistened with a couple of buckets of water. A common hoe may be used to turn over and mix the powder and water, and also it may be used to stir up the mass after the acid is added. Oil of vitriol or sulphuric acid should be purchased in carboys, and the common commercial strength is suitable, that of specific gravity 1.70, or 110° Twaddell. A stone pitcher holding a gallon is a suitable vessel in which to receive and measure the acid; and in turning it out of the carboy, do not be nervous or act in a hurry. Turn it out gently, and be careful that it does not spatter upon the face or clothing. Place the carboy upon a low box, remove the stopper, and, tipping the vessel, allow a small, smooth stream to fall into the pitcher. The two hundred pounds of bone powder will require the entire contents of the carboy of acid; in fact, a little more is needed to produce perfect decomposition. A carboy holds about one hundred and fifty pounds, and one hundred and seventy-five will be appropriated by the bone if the action is perfect and entire. The contents of a carboy, however, have answered in our experience. The acid must be added gradually, one gallon at a time, stirring with a hoe, and waiting for the effervescence to subside before more is added. In a few hours the action will be over, and a liquid resembling water will be seen floating upon the top of the powder. This liquid is excessively sour, being free phosphoric acid, holding a little soluble lime in combination. Many who have tasted of this liquid have supposed that it was uncombined oil of vitriol, and fearing that it would burn up their crops, have been afraid to use the mixture.

To dry this pasty mass so that it can be pulverized, is the most troublesome and protracted part of the labor. Superphosphate should be made by the farmer in the summer after hoeing, when the weather is warm. He should provide twenty or thirty rough, shallow boxes, in which the moist mass can be placed and put in the sun to dry. They can be taken under cover in wet weather. Before drying, a barrel of sifted loam should be mixed with the bone paste, and thoroughly worked into it. This greatly facilitates the drying process. When the mass is dry it can be pounded fine with a mallet, or it can be ground in any kind of a mill. The powder thus manufactured is most excellent, and when further diluted with

two more barrels of dry soil or loam, is equal to the best superphosphate found in the market. A handful put in each hill of corn or potatoes at time of planting will give fine results. This superphosphate must not be mixed with lime, or ashes, as from their action it will undergo decomposition, and new salts will be formed. It may be mixed up with dry fish pomace, and form a very perfect and excellent fertilizer for all kinds of crops.

The manipulation described above is adapted to the preparation of superphosphate from ground raw bones. The only variation is in the amount of acid needed. For raw bone powder, only half as much acid should be used, or six gallons for a barrel of bone dust. The processes for its manufacture are the same.

Bones may be dissolved in moistened wood ashes, if care is taken to bring them completely under the action of the caustic lye. To accomplish this, it is necessary to break the bones into fragments and pack them in a tight, shallow box with an equal weight of good, sound wood ashes. Mix with the ashes, before packing, twenty-five pounds of slaked lime and twelve pounds of powdered sal soda (carbonate of soda) to every one hundred pounds of the ashes. The box in which to conduct that process may be made of rough boards, but it must be tight, and it should not be over eighteen inches deep. It may be as broad as is necessary. The bones should be packed in layers; first upon the bottom a layer of ashes, then a layer of bones, and so alternately until the box is filled. About twenty gallons of water must be poured upon the heap (that is, for every one hundred pounds of bones) to saturate the mass, but more may be added from time to time to maintain permanent moisture. In three, four, or six weeks, the bones will be broken down completely, and the whole may be beaten up together, after adding an equal bulk of good sifted soil. This compost is of the highest efficacy, as it embraces quite all the great essentials of plant food, namely, potash, soda, lime, phosphoric acid, and the nitrogenous element. This is a very convenient way for farmers who have ashes to dispose of their store of bones. If plenty of ashes can be procured, it will facilitate the decomposition of the bones to employ twice as much ashes as there are bones; the solution will be effected sooner, and more perfectly.

If powdered bones are employed, a barrel of the powder may be mixed with a barrel of good ashes, and the whole turned into the half of a molasses cask, moistened with two bucketfuls of water, and stirred up well with a hoe. In a week this will be ready for use, and it forms a most efficient and convenient fertilizer for all the cereal crops. We think it does more for corn, in giving plump, full kernels, than any concentrated fertilizer we have employed. A handful is enough for a hill, put in at time of planting. Before dropping the seed, a little earth should be kicked

over the powder, so that it may not come in direct contact with it.

Our statements are based on actual experience, and experience probably more extensive than has fallen to the lot of most others.—*Dr. Nichols, in Journal of Chemistry.*

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REDUCING BONES.—At a recent farmers' meeting at Bedford, N. H., Mr. S. C. Pattee of Warner, said that he gathers all the bones he can, and saves and buys ashes, and that he reduces bones by filling his arch-kettle or boiler with them, pours in ashes and then water, boils an hour or so, when the bones will generally show signs of dissolution. They can be readily reduced in this way, and in case they resist at first, let them lie in moist ashes and a few days will effect the work.

EXTRACTS AND REPLIES.

BUG-PROOF PEAS.

Mr. President of the great New England Farmers' Club:—As it is time for farmers to look up their seed grain, and have it ready to sow the first favorable time in the spring, I would like to inquire of any member present if there is a kind of pea so large, or with pods so thick, as to prevent the pea bug depositing one of its kind in every infantile pea? If so, will he speak up so loud that all of us can hear? The pea is a highly prized crop on our heavy clay soil, being much surer and easier raised than corn; but the ravages of the bug prevents our raising peas to the extent we should otherwise do. Is there other food the bug would live on, if the pea was not sown? If not, how long would we have to quit raising the pea, to run out the bugs?

BORERS.

Another question, Mr. President, Are the locust tree borer and the apple tree borer the same animal?

ITCHING CATTLE.

The gentleman from New Hampshire inquired at the session of the 4th inst., about his cattle itching. If the hair is bright and the animals are looking well, the trouble probably is *thrift*; remedy, lessen the feed. Thriving cattle, or those "doing well," as we say, lick themselves a great deal. My noble friend has no occasion, I conclude, to ask

what will kill lice. I anticipate he has found out that a little more meal to increase the *grease* on the inside is better than *grease* on the outside. My remedy for lice is *not to raise them*, and then I have no use for the patent fumigators, &c.

WHY THE BUTTER DON'T COME.

Some of our members are bothered because the cream "won't come." Well, if it is bound to not "come," sell the cow and buy one that gives cream that will "come." A great deal of this butter difficulty is not with the *women* who make the butter, but with the *men* who furnish poor cows. I see my time is up, Mr. President.

T. B.

Addison County, Vt., Feb. 18, 1871.

REMARKS.—The questions of the gentleman last up are now in order for the action of the "Club." The Chair would remark in relation to the subject of borers,—though he fears that by his much speaking he may be classed among the "bores" himself,—that three different kinds of worms that prey upon the locust are mentioned by Mr. Harris. One is a reddish caterpillar that operates only in the pith of branches and very young trees, causing a swelling of the twig, which becomes brittle and is easily broken off where the insect works. This is called *Robina pseudovacua*. The second is a grub, which remains in the tree one year and then turns to a butterfly named *Clytus pictus*, or painted Clytus. The third is a larger wood-eater and is supposed to remain in the tree three years, and is named *Xyletus Robina*.

The apple tree borer is a different thing from either of these, and is the larva of a beetle called *Saperda bivitata*.

We often talk of the borer, the cutworm, the potato bug, &c. But of each class there is a large variety. "Borer" and "cut worm," are words we apply to a particular stage in the life of butterflies and beetles. Mr. Harris says that "nearly one hundred different species of borers have been found in Massachusetts, and probably many more remain to be discovered;" that is, these borers when they assume their perfect state are so many different kinds of butterflies, beetles, &c., though when in the borer or larva state they have a great resemblance.

GRASS SEED—WHY DON'T DEALERS ADVERTISE IT?

I have nine acres I wish to seed to grass the coming spring, for mowing; the soil is a gravelly loam. What varieties of seed shall I sow and how much per acre? The common practice here is to sow clover and herdsgrass, not to exceed eight pounds each, per acre; but clover is apt to winter kill; and herdsgrass starts slowly after being cut, and is quite liable to be injured by drought. Now grass being our main dependence here in Vermont, can we not make some improvement in the manner of seeding our land?

Agricultural writers recommend from five to twelve varieties, and from twenty to forty-three pounds of seed per acre. Now as farmers in moderate circumstances who are growing wool at forty cents per pound, can hardly afford to make a journey to the "Hub" every winter to learn who keep all kinds of fresh grass seeds, &c., can you not, Mr. Editor, stir them up with a long pole and cause them to advertise their wares? The country is flooded every season with the catalogues of seeds—

men who make the raising of flower and vegetable seeds a specialty; in the last number of the *FARMER* I notice nine different advertisements of flower and vegetable seeds alone, without a single intimation where farmers can get a pound of fowl meadow, red top or orchard grass.

Cabot, Vt., Feb. 13, 1871. A. M. FOSTER.

REMARKS.—Most farmers find it important to sow some grain crop with grass seed in the spring, to prevent weeds getting possession of the land, if by drought, or any other cause, the grass seed should fail to come. Moist lands may be seeded to grass in August or September, and unless the soil becomes very dry, the seed will come readily and grow well.

The quantity of seed usually applied by good farmers in this region is one bushel of red top, and one peck of herds-grass seed per acre, and in the following spring, early in April, eight to twelve pounds of clover seed per acre. Some farmers sow only half a bushel of red top, and six quarts of herds-grass, but a long experience convinces us that it is poor economy to seed lightly.

Wheat is an excellent crop to "seed down" with. Barley is next. A heavy crop of oats shuts out the sun too much. The young grass is very tender, and when the oats are cut, if there is a hot sun and dry surface, the grass is frequently killed.

We hope your hint to dealers in grass seed will prompt them to send in their advertisements of grass seed immediately. They would, undoubtedly, find their account in so doing.

THE USE OF SALT.

In your issue of the 11th inst., in a communication under the head of preparing food for stock, mention is made of a certain physician, who has kept swine and horses with good success for many years without the use of salt. I have occasionally seen in the *FARMER* and other papers something similar to the above. Having had some experience in the disease of salt, I wish to add my testimony to what has been written on the subject.

For the last thirty years I have fed almost no salt at all to my cattle and horses, (not a quart in the whole time,) and have never had a sick animal, while my neighbors who have fed salt frequently to their cattle, have nearly or quite all lost more or less by disease. This fact shows to me, not merely that cattle and horses can do without salt without injury, but that they can do better without it than with it.

I would add that I have avoided the use of salt in my own diet for several years, and the result has been highly favorable to my health.

If the dietetic use of salt is an injury instead of a necessity, as many would have us believe, the best interests of humanity requires that it should be known. If the words of a distinguished physiologist are true, it is important that they should be known and heeded. He says, in closing his remarks on the dietetic use of salt:—

"From my own extended and careful observations, during the last eight years, I have been strongly pressed to the conclusion that the dietetic use of salt is largely concerned in the production of cancers and other glandulous diseases of the human system, and I am entirely certain that it exceedingly aggravates many chronic diseases, and have little doubt that it increases the liability of the body to diseases of every kind, that it is di-

rectly conducive to scrofulous, pulmonary and cutaneous affections, and disorders of the mucous membrane; in short, there is every reason to believe that it not only serves to predispose the human body to every form of disease, but also serves to aggravate every species of disease when actually induced, and that it serves to hasten premature old age by rendering the solids dry, rigid and inelastic."

D. BILLS.

Mendon, Mass., Feb., 15, 1871.

DOES IT PAY TO RAISE CORN?

I will give my experience the past season on about two and one-quarter acres of ground. The account stands thus:—

Cost of cultivating and harvesting . . .	\$70 00
Barn yard manure	25 00
Phosphate applied in hill	16 00
	—\$111 00
Credit by 110 bushels corn	\$110 00
" 6 loads stalks	40 00
	—\$150 00

Leaving a balance of \$39, for the use of the land; or perhaps it should be \$55, for I consider that the phosphate I used was worse than thrown away, in consequence of the drought. I placed it directly in contact with the corn when planting; and the result was I had to replant my field. I applied fifty loads of manure to the field, but consider that the corn crop is justly chargeable to but one-half of the manure. It is doubtful if it should be charged with even this much, for I think it furnished very little food to the growing crop in consequence of the drought.

The result of my experience has led me to believe that it will pay to raise corn in this vicinity; but it is an open question with me whether a dairyman can afford to raise corn, or in fact, whether any Eastern farmer can. Some dairymen in our vicinity have abandoned it, and use their manure as a top dressing on their meadows. By so doing they have largely increased their yield of hay and at the same time improved their land, at a much less cost of labor. I should like some one who has tried the use of manure as a top dressing to give the result of their experience.

JAMES C. JOHNSON

Monroe, Conn., Feb. 21, 1871.

HOW MANURE IS LOST.

Your correspondent "C.," Wilmington, Vt., has an article in the *Monthly FARMER*, January, 1871, page 55, in which he says some things that are correct and some things which I think are not correct.

After speaking of the opinion that obtained a few years ago as to the application of manure, and the change of opinion which he says has taken place on that subject, he asks the question, "When manure leaves the soil, does it go up or down?" I answer, it goes both ways. Manure is a great traveller, and its great thoroughfare is that thin transparent fluid which surrounds the earth.

Now to illustrate, suppose C's 100 pounds of sugar to be placed in a hot fire and burned, does the sugar then go up? Yes, except a small item or ashes. The rotting or decay of vegetable and animal substances is a slow process of burning. The principle in each case is the same and the result is the same. Hence we have instances where a substance passes from one state to the other, called spontaneous combustion.

All vegetable and animal substances when coming in contact with air and moisture in a warm climate are subject to decay. This process separates them into their elements. They become again incorporated either with earth, air or water. What goes into the air is for the general benefit of growing plants. What is retained in the soil becomes local, and of course benefits the individual.

Manures in passing into the air first become vapors or gaseous in form, instead of going up in a liquid form as your correspondent supposes. Liquid manure is taken up by the roots of plants. The greatest share of the nutriment which plants receive is derived from the air. Suppose a barn with a hundred tons of hay to be consumed by fire, where do the contents go? Or where does a forest, with its hundred tons per acre, go when burned? Such substances mostly go into the air. If they decay they go to the same place, but not in the same time.

Are these exceptions to C's general principles? If so, let me give another. I have raised fifty bushels of corn to the acre on sward land with a good coat of green manure turned under eight to ten inches deep, with a little swamp muck in the hill, with good crops on the same land following. My land is nearly level, and the soil is a mixture of lime, granite and slate stone. Does this land belong to C's cases of necessary evils?

The fact is, animal manures should be covered with soil or composted, the quicker the better after they are dropped. Pure earth is the best and most abundant absorbent in nature. JOEL HERSEY.

Williamstown, Vt., March, 1871.

OUR FANNIE JERSEY.

The brag on her "Molly Jersey" by Mrs. "S. B. S.," in the *FARMER* of February 18, has induced me to say that in the fall of 1868, I bought one full blood and one three-fourths Jersey heifers in Augusta, and took them home, only to be laughed at by all my neighbors who saw the little "scrubs." The grade had what we call a "wolf," and was killed. The other which I now have was two years old last June, and dropped her calf last October. She now gives about five quarts of milk a day. To-day we churned the cream from nine days' milk, after selling one quart of milk a day and using what a family of four persons required, and no pan set over thirty hours, generally only twenty-four hours. We obtained six pounds and seven ounces of butter, as weighed by our grocer. During the month of January we made twenty-four pounds and seven ounces of butter. I am now feeding her two quarts of corn meal, a pint of cotton seed meal and second quality of late cut hay, but for the past three weeks she had no cotton seed meal. The butter is made by a woman of no experience in dairying, and who follows directions found in the *NEW ENGLAND FARMER*. Now I would like to inquire,—

1. Are two quarts of corn meal and one pint of cotton seed meal per day heavy feed for a heifer in milk, provided she does not fatten on the feed?

2. Can more butter be obtained by churning milk, than by churning the cream that rises on the milk?

Mr. John Bussell of this town fattened a native cow that dressed 790 pounds. ZEN.

Springdale, Me., Feb. 18, 1871.

SOD ASHES.

About a year and a half ago, I cut a large drain nearly one hundred rods in length through a swale, somewhat cold and sour, bearing little or nothing but poor grass and moss. The sods, about seventy-five cart loads, were piled together in a long flat heap, five feet high, on dry land. While burning brush last fall, the fire communicated with this heap, and continued to burn for several weeks, until the entire mass became apparently a heap of ashes. I have allowed it to remain undisturbed, till the present time. Now, the question is, how can I turn this heap of ashes to the best account? What shall I mix with them in order that the usual farm crops and vegetables, may derive the greatest benefit? Shall I mix plaster or lime with the

ashes, and if so, in what proportion? Is there any material that can be obtained at a reasonable price, that will add to their value?

I regard Dr. Nichols as high authority in these matters, and if he will give his opinion through the *FARMER* on this subject, I have no doubt he would confer a great favor on many others, as well as myself. J. R.

New York, Feb. 23, 1871.

FEEDING BEES.

I saw in the *FARMER* a piece on feeding bees in the fall. I think that a very poor time. It can be done much better in the dead of winter, even in the coldest weather. If fed in the fall there is always danger of setting them to robbing or drawing in your neighbors' bees.

I take a small berry box cover, fill it full of small gimlet holes, make it just small enough to follow the honey or syrup down, and so fitted that the bees cannot get into the feed. Then I heat a brick pretty hot, if the weather is very frosty, but not so as to burn them, cover it with several thicknesses of cloth of most any kind and put the brick and feed boxes where the honey boxes formerly were closing all up tight. I think the night is the best time. The warming process may have to be repeated several times, as when it gets cold they will all go back. I recommend feeding in the spring either with all maple or a part West India sugar. I think it helps them in getting out their broods. I hardly ever fail to feed my bees a little in the spring whether needed for their preservation or not and hardly ever fail of having some swarms. Last spring, however, I neglected to feed any of them, and though I had ten extra swarms, none of them swarmed at all. J. C. HULL.

East Saugus, Mass., Feb. 25, 1871.

WASHING BUTTER.

It is rather too late to reply to your correspondent "C. M. T.," Island Falls, Me., of June last, who inquires if it is best to wash butter when it comes hard, and can be worked without the use of water. In summer and for present use, whether hard or soft, it is most essential to well wash the butter in one or two waters, then work in fine table salt, and keep drawing the water from it. After sitting in a cool place till hard make it up into prints. If it is to be crocked for winter use, I don't wash it; but work it over *well* with salt three different times, allowing six or eight hours to elapse between each working; then add one teaspoonful of well pulverized saltpetre and two teaspoonfuls of white sugar to every six pounds of butter, each to be well worked in. After salting to your taste press your butter *solid* into the crock. When full, spread a fine piece of cloth over the butter, and place about one-quarter of an inch thick of salt on the cloth; put a board on top of crock to keep out the air. It is not well to begin to crock before the end of August or beginning of September.

MRS. MARY WHATMORE.

Bridgnorth Farm, Dunleith, Ill., 1871.

CUTTING FEED FOR STOCK.

In the *FARMER* for Feb. 18, Mr. W. J. Pettie, in speaking on the subject of cutting food for stock, says, "I fail to see any good reason for cutting feed that an animal will consume economically, thoroughly masticate and well digest." If an animal *can* "consume economically, thoroughly masticate and well digest" long hay and stalks, then there is no need of cutting them,—but it can't. Hay is apt to be wasted. And as to corn stalks, the leaves are generally picked off and the butts left. Whereas if they are cut up, the whole goes down together.

Long feed is not masticated thoroughly. Cattle are apt to get too much into their mouths at once, and so mastication is imperfect; and if mastication is imperfect, digestion will also be imperfect.

I admit that the advantages of cutting feed are not so marked in cattle as in horses. That the horse should have his feed cut is an almost absolute necessity. The practice that some have, of giving clear meal and clear hay, is like giving a man clear bread and clear butter.

Townsend, Mass., 1871.

DISEASED HENS.

I would like to inquire through your valuable paper, in regard to a disease that has shown itself among my hens. They are sick for a week or two, then die. Upon examination I find their liver three times the usual size. Can you give me any cause or cure for the disease? A READER.

Haverhill, Mass., 1871.

REMARKS.—We have experienced nothing of the kind. Will some of our learned poulterers reply?

FROZEN CREAM.—WASHING AND WORKING BUTTER.

Having been much interested in the articles on butter making in your good paper, I venture for the first time to write a word for an editor's eye. After over twenty years' experience in making butter in winter, I can say that freezing cream does not prevent the butter coming. If I have cream enough to churn, without keeping it too long, I would not freeze it. But if I have but little milk, I practice Mrs. Whatmore's plan of heating it, then skim, put the cream in the coldest place I can find, and when I have enough to churn place the cream in a warm room until thawed, and scald the churn. If the cream is not warm enough, I put in hot milk or water, and the butter will come. The buttermilk and the butter, too, will be perfectly sweet. I would not put saltpetre in cream unless I had kept it until it was bitter.

In summer, I wash the butter in the coldest water I can get, washing all the buttermilk out, then work in carefully one ounce pure salt to one pound of butter, and make into pound lumps or pack into stone pots immediately. If it is worked again next day, you only get the salt out and spoil the grain of your butter,—making it greasy.

Spencer, Mass., March, 1871. MRS. E. S. S.

RAISING CALVES.

I claim to be a member of the big Farmers' Club, that B. T., of Addison County, Vt., speaks of, and I wish to make a few remarks about raising calves and corn. I allow the calf to suck until the milk is fit to use, and then learn it to drink. I give it milk warm from the cow a few times, and then a tea made from early cut hay, with one quart of new milk at a feed. When it gets a little older, I put in a handful of oat meal, increasing the quantity as it grows older. When it gets so that it eats hay, I stop giving milk, and in a few weeks stop the tea. I then give it warm water with oat meal, until it goes to pasture. As soon as the nights become cool in the fall, I put the calves in the barn. The first winter they are fed on good early cut hay and roots, if I have them, if not, I give them a little meal. Under this system, I have large, thrifty yearlings. They generally come in when they are two years old, and make the best of cows. I raise none but those from thoroughbred bulls.

RAISING CORN.

After the ground is ploughed I cart on the manure that the cattle have made through the winter. It is put in heaps of five bushels each; the heaps being one rod apart each way. It is then spread

and harrowed in. I usually furrow both ways. I put a small handful of hen manure in the hill, to give the corn a start. I cultivate as soon as it is up enough to see the rows. In a few days it is cultivated again. I stir the ground often with the cultivator, and use the hand hoe as little as possible. As soon as the corn is glazed I cut it up at the ground and stock it. In a short time it is fit to harvest. I have not failed of raising large crops of corn by the foregoing process. C. B. RAFFERTY.

West Berlin, Mass., Feb. 15, 1871.

WHAT AILS MY MILK?

If will sour, but it will not thicken. It is set in the same place that I usually have set it in winter, and I never was troubled in this way before. Can the FARMER give any reason for it so doing.

A CONSTANT READER.

REMARKS.—The probability is that the place is not quite warm enough. Some changes may have taken place, such as the absence of fire in a certain room, or cracks in the closet which admit cold air and reduce the temperature lower than it was last winter. Try a portion of the milk in a warm place.

COLORING BUTTER.—PREVENTING LICE.

For coloring butter why not urge farmers to raise large quantities of orange carrots? These fed liberally to the cows, will make butter of excellent and uniform color. To put carrot juice or annatto into cream expecting good butter, is what I call a miserable subterfuge.

Another thing. Good hay and meal enough will kill lice on cattle. I have noticed that lice take wonderful courage if they get on a poor animal. Hence, I prefer to *forestall* the lice by *stall feeding* the animal.

North Pomfret, Vt., 1871.

DANA BURNAP.

TIN SAP-BUCKETS.

The sugar season is coming and it is thought will be a favorable one. Persons who have sugar orchards, should make their own sugar, and use tin sap-buckets. They are light, easily packed, transported and stored, need no soaking in the spring, keep the sap clean and pure, do not leak in dry weather, and withal are cheap, costing only 30 to 35 cents each. Try them! ROY.

DAIRYMEN'S CONVENTION.—The fifth annual meeting of the Northwestern Dairymen's convention met in Elgin, Ill., Jan. 24. Mr. O. S. Bliss of Georgia, Vt., was present and was elected an honorary member of the association. In connection with dairy matters generally, the subject of grasses for pasture and hay and their culture was discussed. The following resolution was adopted:—

"Resolved, That the use of all coloring matter in the manufacture of cheese and butter is expensive, useless and perhaps injurious, and should therefore be wholly discontinued."

IMMENSE LOSS OF CATTLE BY DISEASE IN ENGLAND.—It appears from tabular statements taken from Morton's Almanac, that the loss from *lung disease*, and *foot and mouth disease*, in England, during the last thirty years, is estimated at 5,549,780 head of cattle, and valued at *four hundred and eighteen million, eighty-four thousand, and two hundred and seventy dollars!*

FARMERS AND FERTILIZERS.



ALL

THROUGH the autumn, and up to the present time, the farmers of New England have met each other for discussion in relation to their business. These meetings have been numerously at-

tended by practical farmers, many of whom have taken an active part in their exercises, participating in the debates, acting upon committees, and presiding when called upon by the president of the day. Nearly all leading topics relating to the management of the farm have been introduced and ably treated. None, however, have awakened so much interest, or occupied so much time, as that relating to what are called *special* or *commercial manures*. These are constantly urged upon the farmer's notice by agents for their sale, by handbills, circulars and advertisements in the newspapers. He needs, or thinks he does, something more than the common manures of the farm to aid him in producing paying crops, and being desirous to avail himself of such helps, is anxious to learn what the real value of commercial manures is.

At the late meeting of the Massachusetts State Board of Agriculture at Framingham, the discussion upon special manures enlisted more earnest debaters and patient and interested listeners, than any other.

DR. NICHOLS' eloquent address upon "*Manures, Special and General*," elicited so many inquiries, that he was kept upon the stand two full hours in stating his own facts, and answering the questions which pressed upon his audience.

Much was said in relation to the value of these fertilizers, and the opinion was quite general, that if they were pure, it would be economical for the farmer to use them in moderate quantity. Such as in starting certain crops for early market on hill lands inaccessible

to be ploughed.

We were present and participated in the discussion at Framingham, and following the tone of remarks, that many of these fertilizers were gross adulterations, stated that we had learned from reliable authority, that "*Sugar-house waste* and *fish pomace* were largely contracted for by manufacturers of superphosphate of lime! We also expressed the opinion that the sugar-house waste was valueless as a fertilizer, and that the fish pomace, when sold to farmers brought only \$20 a ton, while \$60 a ton was demanded for superphosphates.

Nearly at the close of the meeting and after we had left the hall, President CLARK, of the Agricultural College, continued the discussion and stated that the article known as "*sugar-house-waste*," was carbonized bone, and a fertilizing substance of much value; and that fish pomace was an excellent plant stimulant.

Referring to this apparent conflict of opinion, Dr. NICHOLS, in his *Journal of Chemistry*, of Feb. 1, says:

Whilst the two speakers were perfectly correct in their statements, there were some important points overlooked in the discussion, which, when understood, serve to clear up what possibly might appear to some as a conflict of statement and opinion. Sugar-house waste is composed of materials derived from sugar refining, other than the bone coal used for decolorizing syrups. This rejected coal is submitted to the action of heat, and the charring process is renewed, when from use the pores become filled with impurities, and it is then fitted again to serve as a decolorizer. The amount of bone coal ultimately rendered worthless by repeated charring is considerable; and undoubtedly this, with the organic filth removed from dark sugars, constitutes "*sugar-house waste*;" and this is what Mr. Brown was told by the refiners was of but "*little value*," and all of it went to the "*superphosphate*" maker. We know that good dry fish pomace is a manurial agent worth about \$20 the ton. The price in the market in large quantities is sometimes as low as \$15 the ton. Now, the superphosphate maker alluded to may employ both of these articles in compounding his mixture, as intimated by Mr. Brown, and the ingredients, as stated by President Clark, are not worthless; but the important point is *what is the mixture worth? what is its actual value?* That is what farmers wish to know. Has it a fertilizing value of \$60 the ton, or only of 20, 30, or 40 dollars? Farmers do not care what fertilizing substances a manufacturer employs, or where he procures them, or how cheap he may be able to buy them. They are willing to pay a fair profit to the maker for any concentrated assimilable plant food that he may be able to compound; but they *do want to know* the exact character of the substances they are solicited to buy, and also their exact commercial and farm value. If a manufacturer can buy sugar-house waste at one quarter of a cent a pound which is actually worth two cents, he is driving a sharp trade, and is entitled to the benefit of his shrewdness. A fertilizer worth 50 or 60 dollars a ton cannot be made from fish-pomace and sugar-house waste, and this was the idea in-

tended to be conveyed by Mr. Brown. We have yet to find in the market a "superphosphate," or any other manufactured fertilizer, that we would purchase for farm employment at any cost approaching that sum.

The above will show, we think, that our remarks are justified by the facts represented. But our point was a still stronger one than we had supposed it to be, for Dr. NICHOLS informs us that "the ground bone, after being used for decolorizing the syrup, is burnt over again from *once to six times*, and then becomes such an inert mass of filth that no art of the chemist can put life into it!"

In that condition, even if it had fertilizing qualities, its horrible stench would make it totally unfit for agricultural purposes.

We have no doubt but the adulterations in special manures are as gross as they are in the milk that is diluted in cities, or the coffee, tea, sugars, spices, and many other articles used in families.

MONTHLY NEW ENGLAND FARMER.

In a recent complimentary notice of this publication, the "*National Farmer and Horticultural Register*" says: "the title page says volume 5, but it seems to us that its face seems familiar for ten years back." We add, that there are now *nineteen* volumes of royal octavo pages, and forming the best agricultural library that can be found. Best, because during the whole time of its publication it has had hundreds of correspondents from among the most enlightened and practical farmers, and has also constantly laid before the reader the important improvements in farm implements and machinery, and the best modes of managing the farm in every respect.

Each volume contains a full and clear index of the subjects which it contains, so that whatever has been said on its pages during the nineteen years can be made at once available by its index. Indeed, as a gentleman said to us recently, who has received it during the whole time of its publication,—"*It is the book of the town; no matter what is to be done, if there is any doubt as to the how to do it, people come and borrow my MONTHLY FARMER! The binding of the volume is ragged by perpetual use.*"

This work is now in its *twentieth* year. It is distributed promptly on the first of each month, is printed with new type, on strong, white paper, and is in the best possible form

for convenience in reading or for preservation. It contains nearly all the agricultural matter of the *Weekly Farmer*, and such accounts of machines and implements and other articles as relate to the farm and the farmer's home and interests.

Volumes for 1867, 1868, 1869 and 1870, bound elegantly and lettered in gilt, may be had on application at this office.

The paper quoted above, in speaking of the *Monthly*, says,—"*It deserves a wide circulation, and we hope if any farmer who loves quiet and contentment, wants something to please him, he will know where to find it.*"

DISEASES COMMUNICATED BY MILK.

The readiness with which milk absorbs odors is well known to dairymen, who find that if they would make good butter the milk must be kept in a building or room by itself, and away from cooked food and everything else that gives off odors of any kind. We find in the *Utica Herald* some of the facts stated in a lengthy article published in the London *Milk Journal* in relation to milk as a medium for the spread of contagious diseases, particularly of typhoid and scarlet fevers, small-pox, &c. In the town of Penrith, England, a fever broke out in the autumn of 1857. The cases were confined almost entirely to the families supplied by a certain milkman. The matter was investigated by Dr. Michael Taylor, who found that the milkman kept only three cows, and supplied fourteen families with milk. Seven of these families were attacked with fever, without exposure from any discoverable source or any apparent exciting cause. The milkman's family had this fever. The mother, who was the nurse, milked the cows. The milk was taken into the kitchen, where the sick children lay, and measured out for distribution to the customers.

Another instance is related by Prof. Bell, in the University of St. Andrews, where scarlet fever was "clearly traceable to the use of milk poisoned by the desquamating cuticle given off from the hands of infected persons who were employed to milk the cows of a particular dairy." The wife of the farmer who supplied the milk had the disease. She milked the cows. After a while the boy, who also milked and took it to town had the disease lightly, and in due time "peeled," continuing all the time to milk. "On making out a list of the houses in which scarlet fever had showed itself in St. Andrews, and asking the dairywoman for a list of the houses which she supplied with milk, *with one exception there was a perfect agreement in the lists.* In every house to which milk had been sent, scarlet fever had occurred. The cases were twenty-six in all."

In July, 1870, Dr. Edward Ballard, Medical Health Officer for Islington, traced an outbreak of

typhoid fever to the milkman. For fifteen years there had been no cases of this fever in this town. In 1870, there were 168 cases within a radius of a quarter of a mile. Out of 140 families supplied with milk from one dairy, it is stated that "no fewer than 70 suffered from typhoid, and 30 deaths occurred." The origin of the disease was traced to an underground tank on the premises of the milkman. It was stoutly denied that the milk was diluted with water from this tank, and out of charity it was suggested that possibly, as the water was used for cleansing the milk cans, enough might still remain to poison the milk, without any intentional admixture with it being practiced.

WOOL AND MUTTON.

At the winter session of the New York State Agricultural Society at Albany, Feb. 8, 1871, the Hon. J. R. Dodge, of the National Department of Agriculture, read a paper in which he discussed the questions,—Why are wool prices depressed? How can Sheep-husbandry be made profitable in the future? What breeds should we grow? And where shall each be produced?

We have not space even for an abstract of the views presented by this gentleman, further than to say that he takes a hopeful view of the whole subject. The older and more densely settled portions of the country must adopt the "mutton-with-wool" element as an inseparable adjunct of high farming—mutton as the product of large yields of the roots and grasses, obtained in the shortest period of time and in the largest measure of quantity, with wool as a valuable incidental, and manure as a third result of present intrinsic value and still greater economic importance as a productive investment.

Farmers must recognize in their management and feeding, the fact that the mero is to be kept for wool, and the Leicester to be killed for mutton.

We copy his closing paragraphs:—

In closing, I would say to wool-growers, thank God and take courage; instead of faint-heartedness there is abundant occasion for high encouragement. You can only thrive in companionship with the manufacturers; and have no occasion, and I pray you may never have, either to go abroad for woolsens or for a market for your wool. Contrast the prostration of manufacturing at the close of the war of Great Britain, when the bars of the customs were let down, and the invasion of woolsens proved far more a calamity than the invasion of red coats for the three previous years, with the condition of the business of manufacturing to-day. Before that war, in 1810, the value of woollen manufactures was \$25,608,788; after it, in 1820, it was but \$1,413,068. Before the recent war, in 1860, the value was \$68,865,963; after it, in 1868, it was \$175,000,000—two-thirds of it the product of wool of the United States. Is that a cause of discouragement?

No man in his senses, and with ordinary intelligence, can fail to see that the tariff of 1867 has been the salvation of our sheep husbandry—salvation from a more complete and remediless overthrow than awaited the business at the close of our war with Great Britain a half century ago.

You should adapt your business to the changing exigencies of the times and the progress of the country, making fat mutton and fine lambs the

leading considerations in populous regions, where the demand is imperative for more food for the people, and improved culture for the soil, and leaving the production of wool alone mainly to the pastoral regions of the far West, where 8,000,000 to 10,000,000 sheep are now profitably kept, in place of scarcely 2,000,000 in the Territories and Pacific States in 1850. The region west of the Mississippi now yields nearly as much wool as the whole country produced in 1850, and is capable of producing enough for the supply of our population for many years to come without the importation of a single pound.

Then contrive to improve your flocks, increase their yield of wool, give them better care, protect them against diseases, persistently and intelligently follow your business without discouragement or fear, and you will find that any present cloud will show a silver lining, prophetic of a glorious future of prosperity for yourself, for agriculture, and for the country.

FARMERS IN AGRICULTURAL SOCIETIES. — The State Board of Agriculture of Massachusetts, at its late business session, adopted the following resolution:—

That each Society in the State shall publish a catalogue of its members in connection with the transactions of the present year—and that in arranging this catalogue the occupation of each member be set down against his name.

The object of this vote, as stated, is to ascertain how generally the influence of each society extends among farmers, and to what extent the membership is composed of farmers.

We apprehend that this classification of the members of these various societies will be much more difficult in practice than in theory, and it might be well for the Board itself to illustrate the operation of the classification proposed by applying it to its own constituency.

What, to begin with, would be the classification of the members of the "Committees for Investigation and Report," appointed by this Board for 1871, as follows:—

The Breeding of Domestic Animals—Messrs. Agassiz, Loring, Hyde.

Field and Garden Seeds—Messrs. Moore, Hyde and Clark.

The Cultivation and use of Forest Trees—Messrs. Clark, Goodman, Darbee.

The Cultivation and Preservation of Fruit—Messrs. Wilder, Fay, Hubbard.

The Management of the Dairy—Messrs. Ellsworth, Allis, Phinney.

Agricultural and Horticultural Education for Women—Messrs. Goodman, Wilder and Birnie.

A BOY FARMER.—The editor of the *Maine Farmer* was made happy by receiving the following letter:

"Last spring father gave me some land, and told me I should have all I could raise on it. I harvested two bushels of nice shelled corn; one bushel of yellow-eyed beans and five bushels of potatoes. I am nine years old. Do you think any little boy that reads the *Farmer* has done any better?" FRANKIE L. PAINE.
Ben's Owner, Jr., 1871.

Frank certainly tells a good story, and tells it well. If none of the NEW ENGLAND FARMER boys can make as good a report of their last year's operations, will not some of them try their hand at farming next year, and let us know how they succeed?

EXTRACTS AND REPLIES.

GAS-HOUSE LIME.

I can buy refuse lime used at the gas-house for ten cents a barrel. Will it pay at that price to draw it three miles? To what crop is it best adapted; and in what way shall it be applied? What are the objections to it, if any? C. N. F.
Vermont, Jan., 1871.

REMARKS.—When very carefully used, gas-house lime may be serviceable if not brought too near the germinating seed or growing plant.

It may be used moderately upon mossy pasture land, especially if grass seeds are sown about the same time, and worked down with a brush harrow.

If scattered upon ploughed lands in the fall, the rains would dissolve and mingle it with the soil, so that no seed would be likely to be injured by it in the spring. It may have the effect also, to destroy slugs and wire worms in the soil.

When preparing land for a crop of early turnips for market purposes, we should suppose a light dressing, thoroughly mingled with the soil, would be an excellent dressing.

When composted with peat and coarse manure, and exposed to the air for several months, it is said that the soluble portions of the lime will be converted into gypsum (sulphate of lime) by the action of the air. If so, the resulting benefit will be a good dressing of gypsum. Some 29 parts in 10 being gypsum, and 56 carbonate of lime.

In small quantities, gas-lime is thought to be useful if mixed with barn-yard or any animal manures. It is said that scattered sparingly over young turnip plants, it prevents the attacks of the turnip fly. It is too pungent to be applied to most other growing crops, or to come in contact with seeds.

A good many experiments have been made with gas-lime, most of which have resulted unfavorably. The complaint is that it burns, or in some way destroys the seed or crop to which it is applied. So would hen manure, or the guano of commerce. If manure is powerful, it must be used cautiously.

We hope our correspondent will test it and report results to the *NEW ENGLAND FARMER*.

PEAT COMPOSTS.

Will the *NEW ENGLAND FARMER* inform me in what proportions meadow mud can be composted with lime, salt, ashes, bone-dust and hen manure, so as to produce the best results in top-dressing and hoed crops? Wm. P. ENDICOTT.
Salem, Mass., 1871.

REMARKS.—We know of no exact formula for composting peat with the articles mentioned above. In Dr. Dana's *Muck Manual* several formulas are given for composting peat. One is to mix in the proportion of thirty pounds of potash, or twenty pounds of soda ash, or eight bushels of common house ashes, to every cord of fresh dug peat, estimating this by the pit dug out, and allowing nothing in the spring for shrinkage. If ashes are used they may be mixed in at once with the muck; but

if soda ash or potashes are used, they must be dissolved in water, and the pile evenly wet with the solution. The pile then is to be well shovelled over and used as is other manure. Peat may be dug in the spring, immediately mixed with the alkali, and used forthwith.

Another form which he recommends is, one bushel of salt, and one cask of lime. Slack the lime with the brine made by dissolving the salt in water sufficient to make a stiff paste with the lime, which will be not quite sufficient to dissolve all the salt. Mix all the materials then well together, and let them remain ten days, and then be well mixed with three cords of peat; shovel well over for about six weeks, and it will be fit for use. It is believed that this will be found an effectual manure.

A third form is to take three cords of peat, sixty-one pounds sal ammoniac, sixty-one pounds lime. Slack the lime, dissolve the sal ammoniac, and wet the peat well with the solution through every part. Then shovel over, mixing in the lime accurately. The three cords are used in these calculations, because the quantity of salts is equivalent to the ammonia in a cord of dung.

It is quite probable that a *precise* amount of each article enumerated by our correspondent would be more efficacious than amounts used without reference to any known chemical action they might have upon each other. But the only true test, after all, we think, would be the use of such a compost in the soil.

A reference to chapter vii. of the book referred to above may be of service to our correspondent.

We make annually a compost as follows: five barrels hen manure; fifteen barrels fine peat; eight barrels well rotted dung; five barrels house ashes; or any quantity in about those proportions. After manuring broadcast for corn, and working it under two or three inches, a handful of the compost is spread about in the hill, and slightly covered with the foot as the corn is dropped upon it. This not only gives the corn an early start, but seems to carry out the crop to perfection. We have no doubt it would operate equally well as top-dressing.

TO PROTECT PLANTS FROM COLD AND LICE.

I have been very much interested in S. O. J.'s articles on window gardening, and perhaps her answer to a few questions would benefit others as well as myself. I have some forty-five or fifty pots, with a south exposure at three adjoining windows. On frosty nights, I put up a large curtain on the *outside*, which keeps the cold off entirely. The curtain is made like a "bed puff," or "comforter," with rings at the top, and strings at the bottom to keep it close to the window. It is an excellent thing. But I am troubled with lice on my *Verbenas*, *Lantanas*, &c. I have tried tobacco smoke, but it makes me sick. The last time I smoked them, I shut them in a large box, but the smoke would come out, and it did not kill all the lice either. Now if you will tell me how to get rid of them I will be thankful. I have a plant, which I planted last spring. June 30, it blossomed, and remained in bloom till Christmas. It is now in

bloom again. I call it a free bloomer; it is about three feet tall, with blossoms on the top, but no branches. I send you a leaf and blossom, and would like to know the name of it.

ROMEO.

South Hanson, Mass., Feb., 1871.

REMARKS.—The best remedy for the green lice is frequent showering with warm water—not too warm to injure the plants. Spring and summer showers will drive them away. They thrive on the hot, dry temperature of our “sitting” rooms.

If “Romeo” will dip the plants into warm water, shaking them up and down in it, most, if not all of the troublesome pests, will be destroyed.

Verbenas are always much troubled with parasites. I have taken a chicken's wing, spread a newspaper down, and set the pot upon it, and have brushed off every tiny “nit.”

Tobacco smoke is so offensive to me that I have never tried its narcotic effects. It does not kill the aphids, only stupefies it, and unless it is followed up with a good washing, all the green pests revive and are as lively as ever. The leaf and blossom enclosed are evidently from an *Euphorbia*, and I should judge it was of the *Jaquiniflora* species. It has long clusters of bright orange scarlet flowers, and is very attractive.

“Romeo's” protection against the frost is worthy of imitation in the arctic regions of New Hampshire. I shall certainly adopt it.

S. O. J.

POTASH FOR THE SOIL OF ORCHARDS.

In answer to an inquiry from one of your readers, “What is good for apple trees?” You say use ashes or its equivalent in potash. Now what I want to know is, what is its equivalent in potash? and do you regard the same strength from potash as good as the same strength from ashes?

RIV VAN WINKLE.

REMARKS.—One hundred pounds of good hard wood ashes, would yield about ten pounds of potash. But the ashes would yield some half dozen other articles, in small portions, all of which would be good for trees. We suggested potash because that—properly diluted and applied,—can always be obtained, and is better than any other one thing. If good peat were saturated with potash water, it would make an excellent top-dressing for orchards, or indeed, for any of our crops.

The value of ashes is so well understood now, that nearly all farmers are seeking for them, and consequently they bear a high price.

SHEEP RAISING AND FATTENING.—FOOT ROT.

I am one of those that are foolish enough still to try to make a living by keeping sheep. I keep a large sized, long stapled variety of fine wool sheep. Started with 409 last winter and come out with 408 at shearing time. Sheared 2593 pounds of fleece wool, and two fleeces unwashed and 53 pounds tags besides. The wool brought about \$2.69 per head.

I feed my lambs, excepting a few kept for breeders, so that they go to market when one year old. They bring me seven cents per pound after being sheared. I raised a few over 200 the past year. Sold some culls; saved 25 for breeders, and have 160 feeding for market. With the luck I usually have, they will bring \$1.60 to \$5.00 per head. My

breeding ewes have at the rate of ten quarts per day of oats or corn to each one hundred. My feeding lambs, 27 to 30 quarts per hundred a day.

If any of your correspondents will tell us how to do better and keep our manure at home, they will do at least one subscriber a favor.

The foot rot is the *continual* curse of this country to sheep raisers. I hope the cattle disease will be subdued so that it will not prove a like curse to cattle raisers.

C. C. C.

Centre White Creek, N. Y., Feb., 1871.

REMARKS.—Whether or no any one undertakes to tell you how to manage better than you do, we may assure you that more than “one subscriber” would thank you for further details of the plan you are “foolish enough” to adhere to. Coming events may demonstrate that there is less folly in your course than in that of many farmers who have become so wise as to quit trying to get a living by keeping sheep.

WHY DO CATTLE EAT BOARDS?

Being a reader of your valuable paper, I would like to inquire through its columns the cause of cattle eating boards? A neighbor is wintering six cows and four calves; when they find pieces of boards six inches and more in length, they will eat them, and will gnaw the boards on the fence.

The cattle have *plenty of salt*, and *bone meal* occasionally. If you know of any cure I would like to know it.

D. I. PEACH.

Wells River, Vt., Feb., 1871.

REMARKS.—We have underscored the words “plenty of salt” and “bone meal,” in order to give them emphasis, because the lack of those two articles are so many times said to cause cattle to chew boards, bones, &c.

There are plenty of cases recorded, where cattle are abundantly supplied with salt and bone meal and yet they continue to gnaw bones, chips, old shoes and other things.

The theory that the soil upon which cattle feed has been exhausted of its bone-making elements, does not seem satisfactory, and is not probably the cause of the morbid appetite which induces the gnawing.

If bone-chewing were an evidence of exhaustion of the soil, cattle on the prairies of the West would not be found chewing bones; but this we are told does occur there as well as in New England.

During the period of gestation, there may be some exciting cause for a cow gnawing almost any thing. But why it should take place in calves, who can tell?

The same cause may operate with colts as with young children—gnawing something may give relief to the gums.

Is it probable that animals who always feed upon the spontaneous growth of the soil ever gnaw bones, boards, old leather or anything else than tender, succulent, vegetable growth? We rather think it is not.

It must be remembered that our domestic animals are not existing in their natural condition; that they are deprived of their liberty; that they are protected from the elements at one period, and

exposed to them at another; that they are fed upon dry and harsh food, and instead of taking it at such times as their nature suggests, must take it, water included, when man prefers to present it.

Is there not, then, some reason for supposing that the singular appetites noticed may result from this change of their normal condition into an artificial one: into one where certain elements are needed for certain animals, which all our care and all our philosophy fails to supply?

Why does the horse, when ploughing in the spring, plunge into the furrow and eat a pint or more of the fresh, moist earth? Why the ox frequently turn his head aside and lick the upturned furrow with apparent relish? What ploughman has not often witnessed these things? And you who can tell the why and the wherefore?

We can only say this—cattle and horses that have much access to the ground, and especially to a meadow soil, are less addicted to board and bone-chewing than those that are confined to the stall and coward, and seldom tread upon the bare earth in the winter.

If not allowed a range beyond the barn yard, we are inclined to think that a few buckets of fresh earth, thrown into a box where each animal should have its turn at it, would do more to check the habit of chewing than all the nostrums of the apothecary's shop.

But, those who are wise in this matter will please communicate.

GALLED NECK OF HORSE.

Please inform a young farmer what will cure a horse that has been chafed on the neck by the collar, while in the harness. It appears in the form of little boils. After standing in the barn the neck becomes quite stiff.

J. H. K.

Barrre, Vt., Feb. 5, 1871.

REMARKS.—We apprehend that something more than a mere harness gall or chafe is troubling your horse, or that you have continued the chafing process longer than you ought to have done. A few days' rest, or some change in the harness so as to relieve the sore spot, with a wash of aloe and myrrh, or even of some ordinary healing herbs or bark, is generally sufficient to effect a cure in ordinary cases. But the boils you mention indicate a bad state of the system, which you should inquire into.

MUCK WITH MANURE, AND MUCK ALONE.

Having seen different opinions expressed in the FARMER with regard to the value of muck, I will give you a little of my experience. I have on my farm a plenty of nice black muck from one to three feet deep, quite free from sticks and roots, easy to drain and handy to the barn. Early in the fall before rains come, I draw enough of this muck into the barn cellar to cover it about ten inches deep, and under the stable where the manure will fall on it nearly two feet. The young cattle and sheep run on this through the winter. In the spring I draw the manure from under the stable and spread it on greensward, and plough it in for potatoes.

After spring's work I plough up the muck and

manure remaining in the cellar, break up the clumps with an old ax, shovel it over, and mix it up the best I can, and let it lay until September; then use it principally for top dressing or to plough in, as I like. I cannot see why it is not as good as though it was all manure. It certainly brings up a good crop of grass.

To prepare manure for corn, I put eight or ten loads of muck in the hog yard in June, let the hogs run on it through the summer, and in the fall put in three or four loads of manure from the barn yard, with some refuse straw, &c., and with three or four hogs to work it over, it makes excellent manure for corn. One year ago last spring I did not have quite manure enough to finish a piece of corn, so I took some muck from the barn cellar, without mixing any manure with it, to finish the piece, putting it in the hill and hoping it would prove a good substitute for manure. But in this case I was disappointed, for I only got pig corn where the muck was, while the other part of the field was good for the season. This is good evidence that muck in its crude state is not very valuable.

We had snug winter weather, with snow enough for sleighing till about the middle of January, when our sleighing went off, and up here in Vermont, where the snow is usually two or three feet deep at this time in the year, we have not enough for sleighing.

Hay is spending well this winter, and the industrious wide-awake farmer who cuts his hay early, has no cause to complain but what his hay is good and spends well this year.

C. M. FISHER.

Cabot, Vt., Jan., 1871.

TWENTY-FIVE YEARS' EXPERIENCE WITH COWS AND BUTTER MAKING.

We have had twenty-five years' experience in keeping cows and making butter. The first cow we owned was speckled, and supposed to have been part Durham. She was an extra cow, giving over forty pounds of milk a day in the best of the season, with only pasture feed. Her milk was as good as I ever tasted. Her butter came very quickly after putting the cream in the churn, but could not bring it by stirring it with a paddle in the cream pot. We have had in all probably about twenty of her descendants, and have never had any difficulty about churning the cream of any of them. With the cream of one of them it was only necessary to stir it a few times round the pot with the paddle to produce butter. But this cow gave inferior tasting milk. In the best of feed she would average one and a half pounds butter per day for several weeks at a time. The cream on her milk would rise very much sooner than on that of other cows, and if not skimmed at the proper time there would be white specks in the butter.

My next cow was a large red one that gave good milk, but when she was drying off I never could bring the butter. I did not then know anything about heating the cream.

Next came a brown cow, whose mother was a prize animal. She gives good milk, but her cream requires two hours' time, through the year, when churned alone; but if her cream is mixed with "Whiteface's" it comes sooner.

"Whiteface" is only three years old, and is a descendant of a family of great milkers. She is a good one herself, and her cream requires but a few minutes stirring to make butter.

So much for the cows. Now for their treatment, which has been as nearly alike as possible. They have only pasture in summer, and hay with some roots in winter. I have set the milk in both cold and warm rooms. I cannot make as good butter when the cream is raised in a cold room as when in a warm one.

And now let me add, for the benefit of young

butter makers, who have trouble with their butter, whether from bad flavor, white specks or in churning, set each cow's milk separately, skim and churn the cream separately, and you will then know which cows are good and profitable, and which are fit only for the butcher.

D. W. E.
Hampden County, Mass., Feb. 7, 1871.

NEW WAY OF RAISING CORN FODDER.

In reading your valuable paper I have seen many articles in regard to raising sweet corn for green fodder. My method of raising it is this: I plant my corn in hills three and a half feet apart one way and two feet in the row, putting a shovelful of rotten manure in the hill. I plant it as soon as possible on account of frost, and hoe twice well. I plant only sweet corn. As soon as the corn is large enough to sell I break off the ears and send to market; then cut up at the ground, let it wilt and feed to the cattle. I have sold sixty dollars' worth from half an acre of ground, and had the fodder left. I have tried planting in drill, in rows and also sowing broad-cast; but planting in hills gives me the best result.

I am careful not to allow more than three kernels in a hill to grow. My cattle will eat corn grown in this way far better than that grown thickly in drill or broadcast, besides the ears sell for enough to pay all labor. A great many people put off planting their fodder corn until it is so late that their corn is not fit to use until the shortest time for feed is over. If they plant their corn for fodder as soon as the weather will admit, it will be fit for boiling by the first of August, which is the time to commence feeding cows.

Although many people slur the idea of making milk on corn fodder, I think any one who will plant corn for fodder according to my plan, will be convinced of its great value for that purpose. It does not follow that we are obliged to break out all the ears that grow, for cattle will not object to the ears with the stalks. I think one can raise more worth of fodder in this way on the same ground, than by the usual mode, and have the ears left for use or market.

J. ALLEN.

Shrewsbury, Mass., Feb. 13, 1871.

COLORING BUTTER.

A great deal is said now-a-days about "coloring butter," and quite as much said about "amote" at \$2 a pound. I have been making butter for several years, and can always command five cents a pound more than any other on the market at Dunleith for my butter, and I beg to give you Rhode Island correspondent my mode of coloring butter. During the winter months when cows have to be fed on dry food, I grate a large garden carrot raw, after well cleaning it, and put it to simmer on the stove for about half an hour or so, then pour it through the sieve with a bit of fine muslin in it, and put the water into the cream just before I begin to churn, and my butter is a bright June-like color. But another secret in butter making is the feed the cows have.

"WHAT AILS THE CREAM."

I have read Mrs. Carrie's communication in the FARMER of January 21, and was much pleased to see her mode of management of the cream, and her description of her closet. But the "good lady" omitted to answer "S's" inquiry, "What ails the cream?" I think the cream was frozen, though perhaps not sufficiently to coat it over with ice. I have had the same trouble with my cream, and on one occasion churned all day and part of the next to get the butter, which was not good after all. The cause was the cream had been frozen in the jar. I beg to give my mode and a few little notions I have conceived in butter making. I put rings or

flattened horse shoes on the stove and set my milk pans—earthen ones—thereon, after the milk has stood on the shelf from twelve to sixteen hours, and let the cream well rise, but not let the milk boil, and put back on the shelf till next day before skimming. I put into the cream jar one teaspoonful of saltpetre, dissolved in a little warm water, and two teaspoonfuls of salt not dissolved, to two gallons of cream, put both into the jar at first skimming. I stir the cream every day when fresh cream is added. I put the cream jar near the stove for ten or twelve hours, turning it frequently to get the cream warmed gradually before churning, but never scald the cream. MRS. MARY WHATMORE.

Bridgnorth Farm, Dunleith, Ill., 1871.

ASHES FOR APPLE TREES.

Having lived on a number of different farms in this section of country, and finding on each of them old and apparently useless apple trees, it became a matter of no small importance to devise some method by which they could be brought into bearing condition, and thus pay for the use of the land they occupied. After trying various experiments, I took a bushel of leached ashes and spread it under two trees. To my great surprise the next year those trees were loaded with fruit fair to look upon and delicious to the taste. Repeated applications of wood ashes around apple trees that had previously borne but little fruit, and that of an inferior quality, have led me to conclude that no investment of so small an outlay would so richly reward the farmer for his labor as the one here brought to the notice of the readers of the New ENGLAND FARMER.

E. G.

North Lovell, Mass., 1871.

WARMING OR SCALDING CREAM.

We once churned from six to eight hours on the cream from one cow, on two different weeks, and could not bring butter. In attempting to make cake of the churned cream, we added a little saleratus, while warm, and the butter separated, showing to us that the fault was not in the cow, feed nor cream. The next week we set our pot of cream into a kettle of cold water on the stove stirring occasionally until it was luke warm, not having a thermometer. We scalded our churn, put in the cream; and after ten minutes churning the butter came as nice as in the summer season, except in color. This we have tried repeatedly with the same result. If it is of any value to those who only make their own butter, it may be worth printing.

I. ARLEY.

Minneapolis, Minn., 1871.

ASHES AND POTASH.

Owing to the scarcity of wood ashes, I wish to apply potash, and would like to inquire through your valuable paper how much to apply, to amount to the value of fifty bushels of wood ashes?

WM. EUSTIS.

Newburyport, Mass., Feb., 1871.

REMARKS.—A bushel of hard wood ashes contains about (not quite) five pounds of real potash, which would give 250 pounds of potash to fifty bushels of ashes.

HOW SHALL I USE WATER FOR COOLING MILK?

I have a good stream of spring water, which during the hot weather maintains a temperature of 58° to 60°, and which can be conveyed into my milk room at a mere nominal expense. Now just how shall I use it? Shall I construct a vat of sufficient size for the pans of a single milking, and then remove them to the shelves at the time of the

next milking, or would it be better for the pans to remain in the water until fit to skim? To what depth would it do to set the milk, if it were to stand in the water until ready to skim? In short, what is the best and most economical way of doing it? I care nothing about *theoretical* advice, but would like that, founded upon experience or observation. Would like to hear from Mr. O. S. Bliss.

CHAS. E. JONES.

Waitsfield, Vt., Jan. 30, 1871.

TOBACCO SALES.—INJURY TO A BUILDING.

The small lots of tobacco are gradually passing into the hands of speculators at their own prices. Mr. J. Osborn has sold during the week past, at twenty-five, fifteen and five; Mr. Goddard a lot of frost bitten, at five cents; Mr. L. Button at twenty-five and five; Justus R. Cooley sold his tobacco for thirty cents through. It was a very good lot. A number of sales have been made in the other parish—Feeding Hills—prices ranging from five to thirty-five cents. Some New York parties are *en rapport* with experts this way, and I presume another week or two will move some good lots.

We had a real gale last Friday night and Saturday morning. It moved the tobacco shed of the Parson Brothers some six feet off its foundation, breaking the posts and girts badly. It still stands, and if it can weather the winds of winter may be repaired without being taken down. It was a good building, some 120 feet long, 25 wide and 18 high, and nearly new.

L. ALLEN.

Agawam, Mass., Feb. 13, 1871.

BUTTERFLIES.

How are butterflies killed where they are wanted to be kept in their natural state, and where can the Taxidermist's Manual be obtained, price, &c.?

E. N. S.

REMARKS.—Catch the butterfly in a net prepared for the purpose. Place him under a tumbler, uncork a vial of ether and place it at its head. A sniff or two will destroy life and not change its delicate colors. So says a niece at our side, who has practiced considerably in that line. We cannot answer the other part of your question.

CURE FOR BARN ITCH.

I have found coal ashes liberally sprinkled on the cattle and about the stall and floor, a remedy for this troublesome disease. L. WOODBURY.

Launcester, Mass., 1871.

For the New England Farmer.

DEPOPULATION OF RURAL TOWNS IN NEW ENGLAND.

The census is confirming what was only too apparent to even the casual observer, that the population of many purely agricultural towns is decreasing. In every part of these six States there are towns which poll fewer votes than they did ten and twenty years ago, and school districts which cannot muster as many children as formerly. Instances are found where the cellars and foundations over which once stood the homes of prosperous families, outnumber the present dwellings of its inhabitants. The number of farms is decreasing,—the larger ones absorbing the smaller; cultivated fields are being turned into pastures or given up to wood, and ere long wild animals

will return to their former haunts amid the hills and valleys of our dear old New England.

The census further shows, in the sum total for the different States, that New Hampshire has experienced a material loss, being now about where it was twenty years ago. Maine and Vermont have scarcely held their own during the last decade, while Massachusetts, Rhode Island and Connecticut have fallen from their former rate of increase. And yet the past ten years have been a period of unparalleled success to our manufacturing, mercantile and railroad interest; agricultural products never sold better, and no class of citizens have had extra inducements for migrating. It is a good time, upon the whole, to observe the tendency of population.

We find that in three States all the gain in the villages and cities does not counterbalance the losses of the rural districts. The decrease among the tillers of the soil does not arise then from a change of employment, but from a direct migration out of their native States, and from the fact that they do not multiply as formerly.

This backward tendency of our population very naturally suggests important considerations. Can New England afford to thus lose its citizens, or to suffer a depreciation in any branch of industry? Will the increasing wealth of her manufacturers, merchants, bankers and brokers make good the loss in agriculture? The earnings of farm laborers average some \$300 to \$500 per annum; and farmers having 100 acres in fair condition, can add to the products of their State \$1000 to \$1500 each. Cultivated land when given up to pasture and woods, at once depreciates in value twenty-five to seventy-five per cent.; and all the severe labor that was expended in bringing these acres into tillage is lost, to say nothing of the cost of erecting buildings and fences.

Every industrious man helps increase the wealth of his State; and when one such migrates, and a farm is abandoned, there is an appreciable loss. The figures which represent it may seem small compared to the grand total, and railroads and labor-saving implements may in a measure compensate for the decrease or scarcity of men, still it is not too insignificant to be noticed. When the young and robust are leaving by hundreds and thousands every year, as in New Hampshire, the results will tell upon the prosperity of a State. The effects may not be seen in the rapidly growing manufacturing village or city, but in the small rural town they are seen and felt.

By the removal of any considerable number of tax payers, the maintenance of roads and bridges, schools, churches and charitable institutions falls more heavily on the remainder. It is better for a farming community to have the country thickly settled, even at the risk of a sharper competition in the produce markets. A steady decrease in population is the most

discouraging and paralyzing event that can happen to it.

Should the depopulation of our rural districts continue at the present rate the effects will be felt indirectly, if not directly, in our now flourishing villages and cities; and the time is coming when manufacturers themselves will be earnest to have every acre in their town, country and State yield to its full capacity. To enable them to prosecute their business successfully in this corner of the union, so far from the great centre, withstanding the competition that will come from the rising establishments at the South and West, they must have cheap labor,—cheap as the cheapest. Cheap labor depends largely upon cheap food, and where can food be obtained more readily and cheaper than from farms in the immediate vicinity of our factories and work-shops? I am well aware of the views, frequently entertained by our business men, that the agriculture of New England is nothing compared to the other industrial pursuits; that it is no place to farm; that a young man of enterprise who wishes to be a farmer is very foolish to settle down amid these rocks and hills. Go West or South, say they, if you wish to get a living by farming. Thus they do, perhaps unawares, favor migration, and discourage our agriculture. If this is true of farming is it not of manufacturing? Why continue to build such large and expensive establishments where there is nothing but rock, sand and gravel, water, ice, and pure air? Would it not be better to locate factories and work-shops where provisions are raised more abundantly, and where fuel, raw materials and the great markets of consumption of your goods exist?

When our manufactures were in their infancy, New England produced a surplus of food; now we are sending five hundred and a thousand miles beyond its limits for materials and the common necessities of life. Every thousand dollars thus sent to the West or the Canadas for provisions which might be raised at home, is just so much taken away from our wealth.

Any one with few figures can form some idea of what we are annually losing for the want of more men to till the soil. A higher development of our agricultural resources would largely increase our capital and contribute to our independence. To check all retrograde tendencies and institute vigorous progressive movements throughout our rural districts is the work of the hour,—the immediate work for our Boards of Agriculture, County Societies, Town Clubs, and for every public minded citizen.

But many will say what can be done? Five and twenty years have our agricultural orators been preaching against migration, and still the tide from the farms of young men and women and whole families have moved steadily on. They are leaving it now; and will con-

time to leave it for aught that can be seen to prevent. Very well, if they will go, it is useless to try to keep them back; nay, it may be unwise to keep back such as continually feel out of their element, and that destiny calls them to occupations, or some other part of our country; for from this tide of migration many noted examples of success have sprung; many valuable enterprises in our own States have been begun, and other States have received most valuable additions. If the agriculture of New England has suffered from this cause, other States have gained thereby, and thus the nation may not have been a loser. Trying to keep upon the farm, then, such of our sons and daughters as cannot and will not be contented may be impolitic.

How then can the depopulation of our rural districts be checked, if those born and educated upon the farm are not retained within our limits? By filling the vacancies with another and different class of citizens; those who will be contented to live in a climate and till a soil like ours. This can be done,—

1. From our cities. Notwithstanding there is a continued stream of population pouring from the country to the city, there are those in every large town and city who long for country life: those who are weary of the din and bustle of large factories; those worn out by unrelenting toil in dark, damp, badly ventilated work shops; those who are sick of the perplexities and uncertainties of mercantile pursuits, and who are anxiously looking forward to the time when they can own and cultivate a few acres and enjoy somewhat of country life. Some may have no means save willing hands, while others could command a small capital, and a few possess a competency. With a little perseverance these can be sought out, and many a farm now without an occupant, or which has been in the market for years, could be readily disposed of, if the seller would look toward our cities for customers.

2. From the thousands of immigrants annually landing upon our shores. From these could be selected those who have always worked upon the land, who desire to do so all their lives; and who by their patient industry and frugality can more than make a living from the soil our native born sons disdain to cultivate. They only need to be invited to towns in which there is much land for sale, welcomed and encouraged a little at first.

3. Another way of maintaining our rural population is for farmers who employ help throughout the year or for a greater part of it, to erect neat, comfortable, but inexpensive houses upon their farms and hire more married men. Were there five farmers in a town who would adopt this plan this year, and five more who would follow their example next year and each succeeding year of the present decade, that town would add to the population fifty families and at least two hundred inhabitants. More per-

manent and better help would be obtained; female and children's help would be brought into the town, and all that is now said about the scarcity of laborers would be hushed. Farmers having plenty of help could cultivate their land better, increase their incomes, enhance the value of their property and at the same time benefit their town and State.

It is useless in these days of fraternization of races to be over-sensitive about the nationality of one's help, neighbors or townspeople. Were the West at all fastidious upon these points, these new States could never have made the gigantic progress in population and agricultural development that they exhibit. We have the Englishman, German, Scotch, Irish, Swede and French Canadian, from whom we can choose. We have only to open the way to our inland towns and to the land without cultivation, receive them cordially and give them the same encouragement they receive at the West and they will soon make permanent homes with us, and the population of those districts which is now decreasing will be put upon the ascending scale and their products doubled and trebled. Scattered here and there in our midst, they will be under the full influence of our institutions, and it will be our duty and privilege to Americanize, and, if we choose, to New Englandize them.

N. S. T.

Lawrence, Mass., Feb., 1871.

For the New England Farmer.

WHY DON'T THE BUTTER COME?

I have been much amused with an article in the NEW ENGLAND FARMER under this heading, written by A. W. Cheever, Sheldonville, Mass. I can sympathize so fully with his experience that I desire to tell him my story.

I had always preached that "any cream could be churned, if a person only had brains enough—there was the rub!" But alas, for my proud pretensions! In an evil hour they were brought low. The cream had been forced to stand longer than usual, owing to circumstances beyond my control. The mercury was far below zero, and though I kept the cream where it did not freeze, still it would not sour.

I commenced operations as usual; placed the cream jar in scalding water, stirred it every few moments, then applied the thermometer, and the mercury rose to the right point. The churn was then scalded, and the cream—six quarts,—was turned in, and as the girl began to turn the crank, I exultingly announced that in fifteen minutes at the farthest, the work would be finished. Three times fifteen minutes that crank was turned indefatigably, but with a great sense of fatigue to the operator. Then a pint of boiling milk was added. Evidently the proper degree of heat had not been reached. Again the crank was worked with a will; another three-quarters of an hour passed;

the cream foamed as if prepared for "whips." Paterfamilias came in to lunch, examined the cream, listened to my account of the work, and with a true sense of man's superior knowledge in all matters, in doors or out, said—

"Cream is not sour, of course the globules containing the butter cannot break."

So a tablespoonful of album was added, and he took his turn at the crank, confident that his ability would soon bring the butter. Nothing loth were we to relinquish the hard work to stronger arms and superior muscles, if not brains. But I must stand by and watch the work, as it was no fun for him to churn unless I stood beside him "to superintend matters." So I meekly acquiesced to his demand, though a charming book tempted me to the parlor.

Round, round and round in ceaseless whirl went that dasher, until an hour had passed. "I give up," cried paterfamilias; "no use to churn this stuff! Give it to the hogs. What did O. S. Bliss tell 'S.' to do when the butter would not come?"

Then the NEW ENGLAND FARMER was consulted and O. S. Bliss' directions read.

"Scald the cream, and then cool it to 60°." "Ah! yes, that's it. Why didn't you scald it?"

So the cream was turned out of the churn and duly scalded until the surface "crinkled."

"Now it will surely come," announced Paterfamilias. "Cool it all right and churn away." The process commenced again, but the patience of the "superior sex" was soon exhausted. Woman's powers of endurance lasted awhile longer, but the cream had been kept too long, and with feelings of sad humiliation, I turned it into pans to be used for "shortening."

My voice will never again be heard boasting of my ability to churn butter; my pen will never again be used to declare that all cream *can* be turned into butter. Like A. W. Cheever, I am thoroughly cured of preaching on the subject of churning. I also came to the conclusion that there was butter enough on hand for the family supply, and that hence forward the cream should be eaten rather than churned. Paterfamilias is delighted at this announcement, as he has a fondness for baked apples and cream.

I read "Carrie's" account of her experience at butter-making with pleasure, and wish that many others would give us the benefit of their knowledge on the subject. I wish she would try the Devonshire method of raising cream, and instead of scalding the milk when strained, wait twenty-four hours and then place the pans on heated bricks over the stove until the cream crinkles, but does not boil. Devonshire dairies are celebrated for their butter, and this is the process they adopt in preference to heating the new milk.

A. M. H. desires to know if a small quantity of saltpetre mixed with cream would prevent white curdy specks in the butter. I have

never had any in mine, so I cannot tell. My two cows are pure Alderneys, and their butter is hard and fine grained as beeswax. If the cream is strained while warm through a cheese strainer, it is said that all the curdy specks will be taken out. If cows are fed with a tablespoonful of saltpetre once in two months, mixing it with shorts or meal, all tendency to garget is prevented. This I know by experience, and for garget it can be given every other night until the cure is perfected.

O. S. Bliss commences his last article by saying that as I claim my womanly prerogative of having the last word, he shall grant it to me after a *few more words*, which, man-like, he increases into tens of tens. I offered to put my butter by the side of his—i. e. butter made by his own hands, and not by his neighbors, nor do I intend to send my butter to Maine for the trial. I make butter now for my own use only, and because I like to do it, and have done it for twenty years, for the pleasure of it. With all due deference to his superior ability, I must still agree to disagree with him, but am certain that we should enjoy a pleasant conversation should we ever meet.

As to "infinitesimal doses," I consider two tablespoonfuls of saltpetre to weigh two ounces; this added to three gallons of cream, is in the proportion of two ounces to twenty-four pounds. As a "pint's a pound all the world round," it will make two ounces in three hundred and eighty-four ounces. Is not that a minute quantity—worthy of homoeopathy?

S. O. J.

FOOT AND MOUTH DISEASE.

S. L. Goodale, Esq., who was the delegate from Maine at the recent convention of Cattle Commissioners at Albany, communicates to the *Maine Farmer* a report of that meeting which embraces some facts which we have not seen elsewhere stated. He says:—

How the disease was introduced into this country and first disseminated did not clearly appear; plenty of knowledge probably exists, but most of it is only in the possession of some who have large private interests at stake, (in the reputation of costly herds of high-bred animals,) or of the veterinary surgeons employed by the owners of such herds, and who are as close-mouthed as physicians are about disagreeable facts which come to their knowledge in the sick room, or priestly doctors, regarding the secrets of the confessional.

It was shown that the cattle yards at Albany are infected, and that all the cattle, a thousand a day or more, which stop there for feed or sale are liable to take the disease and to disseminate it in all directions. As yet no inspection is enforced there, though the Legislature has been petitioned for some action.

There was no doubt in the minds of the members of the commission that the idea that the disease was the old fashioned Foul-in-the-Foot, was a serious and dangerous error, or that those who made light of it were doing much harm.

The severest case mentioned was that of a farmer in Massachusetts who had 39 cows highly fed for the production of winter milk, and ten fattening beasts. This farmer, although he lost by death only two or three, deemed his actual loss greater than if he had killed and buried every animal on his farm before being attacked; as he could, in such a case, restock his farm, and resume his milk business. The injury to his beasts by loss of flesh, broken udders, lameness, and the care of treating them, he considered equal to their value at the outset—say, upward of \$4000. But in the great majority of cases, this disease had been much lighter, and the total loss and damage was variously estimated at from not more than a tenth in the lightest, to a third or half in the case of herds more seriously affected.

Plenty of evidence came out that the milk is dangerous to human and brute health. One man related of his own son, a lad of five years, that, by taking the milk of a cow, not then known to be affected, but which soon afterwards showed the disease, the month became lined with blisters, bad cracks appeared on the hands, and he was feverish and quite ill.

In Connecticut sheep had contracted the disease; and in New York dogs fed with the milk in some cases had it, and in some escaped the disease.

The extremely contagious character of the malady, and the ease with which it is communicated, was abundantly shown; a single illustration here will suffice. A drover bought healthy cows in New York, and drove them homeward to Massachusetts, and sold on the way. At Albany they were in the yards, and contracted the disease, but did not show any signs of it, nor was the fact known to the drover, until his arrival at home. Several hours after these beasts had passed on a certain road, the owner of a herd living there drove his own herd a short distance over the same road; they never saw the affected beasts, but in four days they were all lame, and drooling at the mouth, and all the cows sold on the route also carried the disease where they were taken.

—The farmers in southwestern Vermont, on the line of the Harlem Extension railroad from Rutland to Bennington, are rejoicing in the prospect of a daily milk train for New York city, which will largely enhance the value of those splendid dairy farms on the route. We do not see why it cannot be done, greatly to the advantage of both producer and consumer.

THAT LINE FENCE.

BY CLYDE HAWTHORNE.

Old farmer Smith came home in a miff
From his field the other day,
While his sweet little wife, the pride of his life,
At her wheel was spinning away.

And ever anon, a gay little song
With the buzz of her wheel kept time;
And the wrathful brow is clearing now,
Under the cheerful rhyme.

"Come, come, little Turk! put away your work
And listen to what I say;
What can I do, but a quarrel brew
With the man across the way?"

"I have built *my* fence, but he won't commence
To lay a single rail;
His cattle get in, and the feed gets thin,
I am tempted to make a sale!"

"Why John, dear John, how you do go on!
I'm afraid it will be as they say!"

"No, no, little wife, I have learned that strife
In a lawyer's hand don't pay.

"He is picking a flaw, to drive me to law,
I have heard that he said he would;
And you know long ago, the law wronged me so,
I vowed I never should.

"So what can I do, that I will not rue,
To the man across the way?"

"If that's what you want, I can help you haunt
The man with a spectre gray!"

"Thirty dollars will do to carry you through,
And then you have gained a neighbor;
It would cost you more to peep in the door
Of a court, and much more labor.

"Just use your good sense—let's *build* him a fence,
And shame such thoughts out of the fellow."
They built up his part, and it sent to his heart
Love's dart, where the good lay mellow.

That very same night, by the candle light;
They opened, with interest, a letter:
Not a word was there, but three greenbacks fair
Said the man was growing better.

SHEEP HUSBANDRY.

At the late farmer's meeting at Lebanon, N. H., a paper was read by Dr. Mason on Sheep Breeding. As reported by the *Mirror and Farmer*, he expressed the opinion that too little care was given to sheep management. We should continually select for breeding the best animals of the breed we preferred. He would not cross coarse and fine woolled animals, for the wool would not be of value for either grade. The natural tendency of a flock is to deteriorate. He would introduce a new buck occasionally to increase the stamina of the flock.

N. B. Safford, of White River Junction, favored the Atwoods. Thought they stood the climate well, and gave seven pounds of wool.

James Worthen thought he could raise wool cheaper than grease. He went for mutton sheep.

Mr. Miller was keeping his sheep without profit, hoping for better times for fine wool. Coarse wool had been abandoned here. He held to keeping sheep warm in barn cellars,

and shut up in storm and cold. Has fed roots. Beets regarded as best. American Imperial sugar beet preferred.

James Wood said, farmers had made sheep raising a living business till now. He thought this section better adapted to sheep than cows. Our pastures are too far away for cows. Have to feed out all we can raise to make them profitable. Farms can be kept up better with sheep. Cows reduce pastures, sheep improve them. Fluctuation in wool he attributed to tinkering with the tariff. With a steady tariff wool would pay at 45 cents. Manufacturers demand raw material free and duty on fabrics. This he regarded as an injury to farmers. He had tried Merinos and approved them. He had sheep that had lambs in cold weather, and lost only one, which got out of the pen. Does not wash. The rule of shrinkage is one-third, his shrunk one-fifth.

Dr. Mason advised the breeding out of all contaminated blood from fine wool sheep. Don't mix in coarse wools.

Dea. Buffum spoke of localities where they make a point of raising lambs for early use, and the results of various methods practiced there.

Mr. Noyes, of Lebanon, said the farmers of this town had got their wealth by keeping sheep and they would not give them up. They keep a few cows, and should keep the best. Sheep much more profitable.

Mr. Palmer, of Orford, was not ashamed of fine wool sheep. The day for breeding them is not past. There has been a great deal to discourage, but much also to encourage. He would buy the best sheep when they are low. Flocks that have real merit ought to be saved. Somebody will reap the profit of persevering, and he meant to do it. If he sacrificed his property, the last piece he would own would be a fine wool sheep. He proceeded to demonstrate the profit of keeping sheep, even with wool at 40 cents. He was very enthusiastic in his opinion of Merinos, and often brought down the house by his well put commendation of the fine wools.

For the New England Farmer.

EFFECTS OF AGRICULTURE ON HEALTH.

Read before the Concord, Mass., Farmer's Club, Jan. 26, 1871, by FREDERICK G. PRATT.

It is the common opinion among all classes of society, that the cultivation of the soil is favorable to long life, and most of the dwellers of the cities look forward to the time when they can sit under the shade of their own trees, and enjoy a sense of rest, independence, and comfort, not to be found in city life. We know that few ever come to realize these dreams, and we know how many young men brought up on the farm, leave it as soon as possible, for the more bustling life of the city; but do we not also know, that many of these.

later in life, return to the country, worn out and broken down, to lay their bones in peace near their early homes?

Farmers are supposed to live longer than those of most other occupations, but statistics seem to show this is not fully so. Travellers and natural philosophers average the longest lives, and even clergymen, with little exercise, comparatively, live longer, as a class, than farmers. This should not be so, and perhaps we may find what is the reason for it, and the remedy.

It is found that incessant thinking on any one thing tends, more than anything else, to unhinge the mind and body. Travellers use all their powers—their eyes, feet, brain, and all, and thereby give a healthy action to all parts. On the contrary, book-keepers, writers, and all people of “one idea,” strain their one idea to the destruction of the rest of the body.

The great mass of farmers seem to be given to this one idea. It is dig, and grub, and toil, day after day, year after year, with the mind never raised above this every-day toil. The remedy, to me, is plain. We are to look beyond our cattle, our potatoes, our grass, and take a portion of our time for searching out the causes and effects of the various operations in which we have a hand. *Book Farming* gives us a chance to work our brain, while our hands do the mechanical part. This is where I think our Farmer's Club does the most good. We have done our day's hard work, and now comes in play another set of muscles, more delicate, perhaps, but for that reason more important to be exercised. It enlarges our minds, and gives a healthy action between the brain and hand, which will not be found when either is used to excess.

Prof. Pierce, of Cambridge, who has given much thought in this direction, remarks, as the result of his observations, that, “taking classes in the average, those are the first to die who are the dullest and most stupid, while, as a general rule, those who exercise their brains most constantly, thoroughly, and faithfully, are the longest lived.” This is in relation to students of Harvard. It is the same among farmers.

It is noticed in prisons, that many of those sent in for long terms, or for life, become idiotic, but of these, few are to be found who have had a liberal education or mental culture in any direction. In foreign political prisons, highly cultivated persons have spent the greater part of their lives in the darkness and solitude of a dungeon, and even then come out in their old age, with mental and physical activity unimpaired. Mary, Queen of Scots, lingered eighteen years in prison, and then went forth to the block with her full vigor of mind, “while an uneducated farmer,” says Dr. Hall, “who can feed on the fat of the land,—who passes near three-fourths of his existence in the blessed sunlight, greedily drinking in the lus-

cious out-door air in all its purity, with no restraint of bodily liberty, but abandoning himself to the dull routine which comprises about nothing but to work, and eat, and sleep,—often finds in less time than fifteen years, that vigor of mind and health of body are both on the wane.”

It is no longer considered all sufficient for a farmer to have a vigorous frame and intelligence enough to skilfully use a tool or drive a team. There is something further. “Remunerative farming is the reward of those who have made themselves familiar with the analysis of soils, who have some knowledge of botany and vegetable chemistry, and who have given some study to ascertain the surest way of obtaining the best seeds, and the best breeds, and who have ‘method in their book madness,’ in the selection of scions, and grafts, and roots, and plants. Such not only make money by farming, but have a positive delight in their labor, and in waiting for results: for one of the sweetest sensations possible to the human mind is the development of useful facts, as the result of trials and experiments.”

This is what is wanted to lengthen a farmer's life, and add increased enjoyment to such a life,—more time to be taken from the hand and added to the mind.

For the New England Farmer.

MILLET AND HUNGARIAN GRASS.

MR. EDITOR:—Every one familiar with agricultural reading knows that Dr. Loring is decidedly down on green corn as a soiling crop, and recommends the use of millet instead,—sugar millet he calls it, I suppose to distinguish it from Hungarian grass.

Last spring, after planting as much sweet corn for fodder as I thought I could use in a green state, and having a half acre of land to spare, as an experiment I sowed it with millet and Hungarian grass, one-half of the lot to each, using a bushel of seed to the acre. On account of the difficulty of curing it, I have never considered corn fodder a very good crop to raise for winter feeding. I thought as millet could be easily dried, a surplus of it would be better than a surplus of corn fodder. In spite of the dry weather I had a very good crop of both kinds of the millet. The Hungarian grew much the finest, and I should think would require less seed per acre than the other kind. I think a bushel of either not too much for an acre, and of the millet I would sow five pecks. It was cut as soon as it had reached its full height, and before it was in full blossom, which I thought should be the time to make from it the best quality of hay. The day it was cut I took a small load to the barn, keeping the Hungarian and millet separate, that I might know if the cows had any preference for either. I could not see that they had any choice, for they could not be made to eat either kind. It was all

dried for winter use and stored on a scaffold, which was afterwards filled with rowen so that the millet could not be reached till midwinter. When it was uncovered I gave every animal in the barn a feeding of it, and not one of them seemed pleased. After smelling and poking it over with their noses awhile, some of them began to eat, while the others looked straight at me till I left the barn. Since then I have fed it occasionally, a little at a time, and some of the cows seem tolerably well suited, while others will eat but very little. I do not see how any one can estimate it equal in value to English hay unless the hay is quite inferior. I presume if cattle were fed on poor bog hay, oat straw or dry corn husks, they would like a change to millet, and if English hay should stand till over ripe, it might not be relished by the cattle as well as early cut and well cured millet. I intend to give it another trial the coming season, not as a soiling crop, but for winter feed for dry cows and young stock.

The severe drought of last summer killed the roots of grass on thousands of acres of mowing fields. An extra effort should be made this year to raise forage crops, and a due proportion of millet or Hungarian grass will undoubtedly come in well as a change from poor hay and straw.

A. W. CHEEVER.

Sheldonville, Mass., Feb. 21, 1871.

For the New England Farmer.

WASHINGTON TERRITORY.

I used to be much interested in the *NEW ENGLAND FARMER* in my native home far up among the hills of New Hampshire, and seated here alone in my cabin to-night, with the wind and wolves making wild music outside, it occurred to me that perhaps some of your readers might be interested in a letter from me.

I left New Hampshire in October last, passing through Chicago, Ill., and over the Rock Island and Pacific railroad to San Francisco.

Of the scenery and incidents of the trip I need not speak, as the one has often been described and published, and the other was nothing unusual in so long a trip. There is one thing, however, I wish to say that I have never yet seen in any description of this great national thoroughfare.

Every one knows that the road passes over three or four ranges of mountains, necessitating heavy grades, tunnels, tressle work, &c., and the question was often asked East, and is in this part of the country, Is the road safe and smooth?

A great deal of the road would compare very well with any other road in the States, and the roughest part is better than an average of the Grand Trunk railroad running from Port Sarnia to Prescott. We averaged twenty miles an hour from Omaha to Sacramento,

while from there to San Francisco we made nearly twice that.

I stayed one night only at that place. And here I must pause to remark that I have been in nearly all the large cities in the East and North-west of the Union, and have had some little experience with "hackmen and omnibus drivers," but San Francisco "carries the palm." On landing an hour after dark, it did seem, for a few minutes, as if

"All the fiends from heaven that fell
Had raised the banner-ery of hell."

as Scott has it, shouting, yelling, screaming, swearing and praying, till Babel would have been silenced and awe-stricken.

The next day I went on board the splendid side-wheel steamer "Orillanue," and in the rays of the setting sun saw the Golden Gate slowly settle down and disappear behind the waste of waters. I discovered when about fifty miles out that I was *not a sailor*; in this, however, I had the sympathy of other passengers.

The fog was so dense at the mouth of the Columbia we had to "lay off" several hours, and when we did get in and tied up at Astoria, we could not see the town. This, however, was very little loss, as there is not much to be seen, I am told, and from appearances I had no reason to doubt it.

Towards evening the fog lifted a little and we steamed up the river. There were flocks of swans that covered acres, swimming around, with countless thousands of wild ducks and geese.

We got aground at the mouth of the Willamette (accent on the second syllable) and had to wait for the return of the tide, which is here some three feet. On the maps Portland is placed at the mouth of this river, but it is twelve miles up on the left hand bank, and contains many fine buildings and about ten thousand inhabitants, made up, like all towns on this coast, of the "five races of men." Here is "John" and "Ah Sing," with their "Josh house" right alongside of Protestant houses of worship, presenting a singular and painful spectacle to a reflecting mind.

This valley is very rich in agricultural products of all kinds. Immense herds of cattle and horses used to be raised here, but the country is settling so fast that they are beginning to seek pasturage in the wilds of the mountains. I found a friend waiting for me in Portland, and after a few days spent in seeing the town and procuring an "outfit," we took the steamer at five in the morning for the Dalles, once a very lively place, one hundred miles further up the Columbia, but now presenting rather a deserted appearance.

The scenery where the Columbia breaks through the Cascade range is very bold and beautiful. Everything is on a magnificent scale. I was asked to guess at the height of a rock standing alone and looking like an old-

fashioned sugar loaf somewhat enlarged. I looked at the mountains and then at the rock, and replied, "about three hundred feet." Imagine my surprise on learning it was three times that height.

At The Dalles we procured horses, and strapping on our blankets, fry-pan, bacon and hard-tack behind our saddles, we entered the ferry boat and were soon across the river in Washington Territory.

The morning was fine, the scenery charming. A mile carried us beyond civilization, and ten miles brought us to the foot of Klikitat mountains, a bald ridge, so far as timber is concerned, but covered with bunch grass that affords a fine summer range for stock, as there are plenty of springs and creeks of pure water. The ascent was very steep and we were some two hours in getting over. Ten miles more of ride over a fine rolling country, also covered with bunch-grass, and we struck Klikitat creek. Here we unsaddled and picketed out our horses to graze, while we supplied our inner man with "bacon straight" and hard-tack (bacon in this country means *smoked fat pork*) and then lay down on our blankets for an hour's rest, with "none to molest or make afraid." Saddling up we crossed the creek, and just at dark rode up to the Block House.

This is a log house or fort built during the Indian troubles of 1855-6, but at present occupied by an Irishman, and used as a stock ranche. We were welcomed with genuine Irish hospitality, and considerable deference was shown us by our host and several other men who were stopping there for the night. We were in doubt a little as to the cause of this, but found out afterwards that they had set us down as a couple of *Methodist preachers*.

Seated around the fire-place that evening, we listened to many a wild tale of savage warfare and legends connected with the early settlement of the country. They call this country settled: but this was the first house we had come to after leaving the Columbia, and are told it is forty miles to the next house. A Yankee would think there was room for a few more settlers.

In my next letter I will take you over the mountains, and as there was a battle fought here in 1855, I will give a few incidents of Indian warfare.

G. S. P.

Yakima, Washington Terr., Jan. 18, 1871.

VERMONT BOARD OF AGRICULTURE.

The following outline of operations, so far as relates to agriculture, has been adopted by this Board.

1. To supplement other organizations for similar objects, in the State, so far as we may do so and preserve our individuality, but to supplant nothing.
2. To co-operate with county and town societies and through them secure some uniform and systematic plan of work throughout the State.
3. To suggest to dairymen, farmers, and stock breeders certain definite experimental problems.

4. To procure analyses of all fertilizers (natural or artificial) for sale throughout the State, and publish them in full with their relative and commercial values; and to secure protection against frauds by legislative or other action.

5. In accordance with the provisions of the bill, to hold at least one annual meeting, at some central point in the State, for the purpose of discussion and the reading of papers.

6. Under the auspices of the local societies, and co-operating with them, to hold meetings of the board from time to time, in the various counties, of the same general character as the State meetings.

7. To publish from time to time the more valuable papers presented, together with statistics collected, and distribute the same among the people separately or in the annual report.

8. That the name of the officers of all county and town Agricultural and Horticultural societies, and farmers' or dairymen's clubs, throughout the State, be obtained by the Secretary, through whom the papers from time to time printed may be distributed.

The Board was to meet at St. Johnsbury in March, for reading papers, discussions, &c.

HON. JOSEPH W. COLBURN.

The death of this gentleman, which occurred at his residence in Springfield, Vt., February 17, has been briefly announced. He was a representative of a class of farmers that we are unwilling to believe is leaving the soil of New England,—a class that, commencing life as laborers, buy farms of their own, and while cultivating the soil find time to cultivate their own minds, and at the same time acquire pecuniary independence. "Living in a quiet and unostentatious way," says an intimate friend of Judge Colburn, "there was nothing extraordinary to mark his life." But does not this "quiet life" afford an example and a lesson of encouragement to young men which an "extraordinary" life, however brilliant, could never afford?

"His early life," says the *Rutland Herald*, "was a severe and laborious one, and he often wished for the neglected and wasted opportunities of more favored youths about him. With no resource but his industry, energy and economy, he reached the goal he early placed before himself—pecuniary independence and an honorable name."

Joseph W. Colburn was born in Claremont, N. H., on the 14th of April, 1800. His parents had been reduced to extreme poverty by misfortunes, before his birth. At the age of ten years he was thrown upon his own resources for a livelihood, and after he was fifteen years of age appropriated all his earnings, excepting those needed for his own board and scanty clothing, to aid his distressed parents. At the age of twenty-two his father died, after which for seventeen years he supported, with the assistance of a younger brother, an aged and infirm mother, when she too was gathered with the dead.

Having no money or opportunities for gaining an education, except those afforded by the district schools of that day, he availed himself of these privileges for two or three months in each year, until he had attained his eighteenth year. His natural taste for reading, and great desire for knowledge, induced him to read carefully all the books within his reach; and at a very early age he devoted his first earnings to the purchase of an interest in a public library. His life affords an eminent example how the public library will influence the life and shape the character of a youth struggling with poverty, but thirsting for knowledge and culture.

Strongly attached to agricultural life he has devoted himself to farming, and has long been known as one of the most successful farmers of the State, never having forgotten his early reading of that renowned maxim, "Time is money, economy is wealth."

He settled on his farm on the banks of the Connecticut, in the town of Springfield, in 1838, and to which he had given the name of "Mont Vale."

While steadily following the pursuit of a farmer he has often been called upon to occupy honorable positions, in the town, county and State, all of which he filled to the acceptance of the people. He was three years a Senator from Windsor county. As chairman of a special committee of the Senate he made an able report upon the intricate question of tariff. He was one of the Assistant Judges of the Windsor County Court for four years. He was a member of the Council of Censors in 1869. He was one of the founders of the Exchange Bank at Springfield, and was its President from its organization until it was supplanted by the First National Bank of Springfield, in which he was a director at the time of his death.

Judge Colburn, as an agricultural writer, was well known, and his articles in the public journals attracted wide attention, as they always gave evidence of a discriminating mind and afforded profitable suggestions. His articles in 1866 and 1867, upon "Protection to American Wool Growers," were very generally read and were of great influence in shaping the national legislation upon that subject.

Judge Colburn was one of the founders of the State Agricultural Society, and has been one of its directors from its first organization, now twenty years, and for the last ten years its treasurer. He was its President in 1865 and 1866. In his death the Society loses another of its earliest and faithful friends and officers. Keyes, Hammond, Colburn, co-laborers for more than a score of years, have followed each other to the tomb in rapid succession.

Our personal associations with Judge Colburn for the last eight years have been frequent, and we are compelled to testify our respect for his ability and character. He was a man of earnest thought, of comprehensive scope of mind, of steady and unerring judgment, of inflexible integrity and unswerving decision of character. He was rather marked as a man of large general powers, than as a sparkling writer or brilliant talker, as an honest, independent fearless public man. We bear our emphatic testimony to his sterling worth. Cool, cautious, conservative in his general tone of mind, perhaps he failed at times to win the approval of the ardent and enthusiastic. But if he was sometimes slow to move, he always moved in a good direction. He was never cajoled, or seduced, or corrupted into any crooked ways. His path was broad and straight forward, and always illumined by the light of a manly intellect and unquestioned honesty of purpose.—*Rutland Herald*.

—An eighty acre farm in Iowa is carried on by twin sisters, twenty-three years of age. A boy sixteen years old is all the male help they have.

FARM OF N. B. SAFFORD.

About ten years ago Mr. Safford, one of the members of the Vermont Board of Agriculture, bought a farm near White River Junction for \$10.75 per acre. A correspondent of the *Vermont Farmer* says that the first year the farm was let to an old man who cut seven loads of hay and tried to winter two cows and a pair of three-year-old steers so small they were called "Ferguson's rats." Some hay had to be bought to winter them out. This farm has been enlarged by additional purchases to four hundred and fifty acres, and cost \$6,500, and is now doubtless worth over \$20,000. The land is mostly pine plain, but it tends to clay rather than sand, and is retentive of manures. The farm was covered with pine stumps, at the time of its purchase. These have been removed and put into fences, and the land judiciously tilled. And now the stock consists of about thirty head of cattle, eighty sheep, four or five horses and perhaps a half dozen pigs, with abundance of fodder for their winter sustenance, stored in the old barn 30 by 40 feet used for horses, and one large barn 120 feet long by 55 wide, 18 feet posted, with a cellar ten feet deep.

The floor of the main barn is through the length of the barn, and is nearly on a level with the eaves, being entered from a long ascending plank driveway. This makes it very easy to unload hay and grain as they go into deep bays each side. Instead of backing the wagon out from the floor, there is a simple yet ingenious way of turning it round. About the middle of the barn the floor is extended out to the right. Here, on a corner post by the floor, hangs a rope that is made fast to the off hind wheel, and as the team backs, the hind end of the wagon swings out toward the side of the barn until the horses can turn. When they start, the rope still holds and the wagon is drawn into a straight line from the post to the horse. The rope is then cast off and the team driven out. On this side of the floor is the feed cutter. The cut feed drops to the floor below, and is fed by pushing it with a rake head into the mangers of the stables each side.

A portion of the stock are thoroughbred Short-horns from animals purchased in Kentucky two years ago by Messrs. Safford, Russ & Craft. The bull "Kentucky Duke," two years old, is a fine one with many good points; large size, quiet disposition. He took the first prize at the State fair at Burlington, as a yearling. "Alice 2d" is a really fine heifer. The cow "Fancy" weighed 1718 pounds a week after calving. "Nellie Grant" bred by Mr. S. gained three pounds per day until five months old, when she weighed 618 pounds, and at 18 months weighed 1150 pounds.

The method of cultivation pursued is to plough in the fall, as a better yield of corn has been obtained on fall ploughing, than when part has been left over till spring. Thirty acres were ploughed last fall. There are also ten acres in winter wheat. The manure is worked with the surface soil and is in a fine state, as the coarse fodder is cut with a machine. Most of the land is hoed one year, the corn crop being a leading one. Twenty acres will probably be planted to corn in 1871.

In seeding to grass, timothy and clover are both used, and special effort made to put the soil in fine tilth for seeding. On two pieces the fertility had been improved by ploughing in growing crops. One piece of clover ploughed in was followed by a crop of wheat, twenty-seven bushels per acre.

Another piece had been cropped by a tenant until buckwheat would not grow more than six inches high. In 1869 it was ploughed and sown to buckwheat, the feeble growth ploughed in when it was at its best, and another crop of buckwheat sown. This also was turned in and winter rye sown. This was turned in in 1870, and was followed by another crop of buckwheat which was a heavy growth and was turned in. In 1871, another crop will be put in and the result of this method will be ascertained. The soil of this piece is rather light.

The pine grove that first tempted Mr. Safford to buy the farm has been thinned out and is making a rapid growth, and will be valuable property in years to come.

For the New England Farmer.

PREMIUMS FOR GROWTH OF FOREST TREES.

I noticed by an editorial article in the *FARMER* of November 12, that you do not think it necessary to encourage, by premiums, the cultivation of forest trees.

The propriety of offering premiums for the encouragement of *any* branch of farming is a question I do not propose to discuss at this time. I only wish to say that I believe that in many sections of New England, wood and timber are among the most profitable crops produced by the farmer. One of the reasons why it is profitable, is because it grows so spontaneously. I could show you a field of three acres, over which I rode horse to plough among potatoes thirty years ago, that is now well covered with a growth of white pine trees that look very much like saw logs. I am sure that the trees are the most profitable crop the land ever produced.

At the time the lot was last ploughed, there stood near the northwest corner a few old pines. These bore seeds and the wind scattered them over the field. On that part nearest the old trees the young pines came up thickly and they have grown straight and smooth. On that portion farthest off from the parents, the growth is quite thin and the trees have too many limbs to ever make the best of timber.

I could show you hundreds of farmers in the towns of Franklin, Bellingham, Wrentham, Attleboro', Walpole and Foxborough in this State, and in Cumberland and Smithfield in Rhode Island, who would find it very difficult to pay their taxes were it not for their annual crop of wood and timber or charcoal.

On such land as many of us find ourselves located, we should have little work to do through the winter months were it not for the wood lots.

If our lands were all as good for dairying as some in the Middle States, perhaps the care of cattle through the winter would give sufficient employment, so we should not eat up in winter all we had saved in summer. With such land as we have, undrained swamps, sandy plains, and rocky hills, let us be very thankful that we are *obliged* to "fight against

the encroachments of the forest" on cultivated land. Let us cultivate a few of our best acres well, and let the balance of the farm come up to wood if it will, and even encourage it by ploughing the old pastures and sowing seeds of the pines and birches, and perhaps also chestnuts and oaks, in some localities.

When people ask me what to do with old pastures that are all run out and are coming up to pines, maples, or birches, I tell them to stop mowing down the brush, and encourage the growth of the valuable wood.

I know an old farmer who is quite handy with a slate pencil, who claims that a young white pine three feet high in a good location is worth a "ninepence" to grow for timber. There is room in an acre for a great many such ninepences.

Now that portable steam saw mills are coming into such general use, it does not so much matter whether a wood lot is near a good water power as it did formerly. Do not discourage the growth of forest trees, for they may be counted as the best friends of many a farmer.

A. W. CHEEVER.

Sheldonville, Mass., Dec., 1870.

REMARKS.—The article alluded to by our correspondent has been criticised by a contemporary in a spirit and tone that precluded any notice on our part. To our correspondent we would say that we did not intend to "discourage the growth of forest trees." We were simply questioning the expediency of offering such large premiums as that of one thousand dollars, the award of which sum to a single individual we were commenting on. The idea expressed by Mr. Cheever, that timber is profitable "because it grows so spontaneously," was the basis of our remark that we "think there is no great need of special encouragement of tree planting among us." On most of our New England soil, trees spring up spontaneously, if permitted to do so. They are thus springing up all over the country. We rejoice that it is so. We are thankful that "our lines" were not "cast" in a treeless country; that our hills, unlike those in portions of the old country, clothe themselves with foliage, and that, generally, without the laborious process of planting. We say, generally; because we believe there may be some pine plain and other "free" soil land so far exhausted by tillage as scarcely to be able to start a tree unassisted, and where it might be advisable to plant the seed. Hence while we fully endorse the suggestions of our correspondent as to the expediency of growing and caring for forests,

we still doubt the necessity of appropriating the funds of our agricultural societies to the payment of large premiums for plantations of forest trees. We recently owned a portion of a lot of wood of saw-log size growing amid corn hills which distinctly marked the rows of a field cultivated "both ways," some fifty years ago, which though entirely spontaneous in its growth, could hardly have been improved by artificial cultivation, or a thousand dollar premium.

For the New England Farmer.

FLOWER GARDENING FOR MARCH.

"Forth from a southern covert, warm and deep,
Came Spring, and looked old Winter on his front austere,
And lightly stepped about like one in fear,
And where she trod the flowers began to peep."

The "wild, tempestuous" days of March are come, and nightly the howlings winds commence their advent; but we give them kindly greeting,—they have a mission to perform, a work to accomplish that must not be left undone. The sun has greatly increased in warmth, and it comes to us earlier in the morning, and lingers more lovingly towards evening. The winter may not be "over and gone," nor "the time for the singing of the birds" arrived; nor is "the voice of the turtle heard in the land," but we know that all these pleasures are close at hand.

As we turn over the pages of the florists' catalogues we mark the varieties we would like to possess. Then, when the last leaf is turned, the last illustration admired, we foot up the list. Its sum total amazes us. That will never do! So we go over the list again, and strike out names here and there, and again reckon its amount. But, alas, that is more than our slender resources will permit us to enjoy. So, with joyless fingers, we erase all but the indispensables.

We must have Pansies; their bright faces cannot be given up; their glorious purples, yellows, bronze and mottled colorings are truly indispensable. They cost high—fifty cents per package for the choicest kinds, and we cannot afford to plant any others. We cherish our floral pets with kind and loving care, and we must have the best that can be raised. Asters are also essential. Think of a September without them! Twenty-five cents per packet is needed for one mixed variety. Balsams are indispensable, Smith's Prize we must have. Another twenty-five cents. Japan Pinks are also a necessity, and they call for twenty cents.

So the list increases, but the flowers are all *essentials*. No garden should or could be planted without them, and economy must be practiced on some other department; not so many new dresses purchased; old gloves re-

mended; ribbons, tempting ribbons, passed by. Can their silken glories equal the perfect colorings of the flowers God has given us? No, indeed; one small bed of Pansies is worth all the ribbons one could desire!

It is too early to plant flower seeds in New England as yet, unless some tender darlings are cherished in boxes or in hot-beds. Verbenas are worthy of being forced, and if the seeds are soaked over night in warmish water, and then planted in a light, sandy loam, they will flourish finely, and blossom by the middle or last of June. Often two or three dozen plants of splendid colors can be produced from a twenty-five cent package of seeds, and one dollar per dozen plants is the least price for which they can be procured from a florist. Seedling verbenas are profuse bloomers, and will be covered with flowers until the frost. No plant gives more satisfaction than the verbenas, if rightly cultivated. For several years we had not attained to our usual success, so last summer we asked for a small bed in the vegetable garden, though we do not like to see beautiful flowers in close proximity to cabbages, melons, &c. But we were determined to have time verbenas, so the bed was planted with a dozen fine plants from a green-house, and an iron tablespoonful of the Grafton Mineral Fertilizer was dug around each plant. The result was glorious! Such a blaze of color no other garden could boast in all the village, and a large bouquet of them was gathered as late as October 19th.

Our Window Gardens

require close attention during this month. If our readers have followed all the minute directions given in these articles, some of their plants will now be in full bloom, while many others are budding, and will soon be a glory. They must have a good compost to grow in, plenty of sunlight, cleanliness, all the fresh air that can be given at noonday, when the sun is hot, and a proper amount of moisture. If these important requisites are not attended to, success will not crown your efforts.

Watering is one of the most important points in plant culture. When the surface soil is dry, give a copious supply of warm water, so that the roots can drink it up plentifully, then pour away what remains in the saucer. Nearly every plant is injured by standing in water. Calla Lilies and Lobelias are exceptions to the general rule. Place the pots as close to the window glass as possible, and keep the glass clean. All the leaves and branches will turn to the health-giving sun; so be sure and turn the plant a little daily. If your stand is so full that this cannot be done easily, turn them entirely round every third or fourth day. If you have not done this during the winter, turn your plants after reading this, and see the change you will produce in their appearance. Want of light and too great a supply of warmth at night are the two causes which produce

lanky, ill-shaped, sickly plants. Plants growing in gardens are always cooler at night than during the day, and those growing in the house should also be cooler. But many parlors are much warmer at night than by day. Gas or kerosene lights and more people in the room increase its temperature, and at bedtime, for fear they should freeze, the heat of furnace or stove is increased, thereby injuring many plants. It is well to drop the curtains on them, and thus shield them from artificial light. They require darkness at night. Gas is a prolific source of failure in raising house plants,—it vitiates the freshness of the air. Never be afraid of keeping the windows open as much as possible during the warmest part of the days in this month. If the mercury rises above fifty and the sun shines full on the plants, there will be no danger of chilling them at noonday, but do not expose them to a draft.

As dust is one of the greatest drawbacks to successful window gardening, we must constantly battle with the insidious foe which sucks away the life blood of our darlings. If our plants are not so arranged that they can be showered twice a week with a fine rose watering pot, a sponge or a small paint brush must be substituted. If the brush is used, it need not be moistened until the dust is brushed off, and then each leaf can be washed with it. As soon as mild showers come, put out all the pots, baskets, &c., and they will be greatly benefited, far more than by any artificial showerings.

Chinese Azalias are in their glory now,—their pure white, red and rose-colored flowers are very lovely. They have always been treated as green house plants, but are now proved hardy in and about New York city. At Flushing they bloom profusely out of doors, both the double and single varieties. *Azalea amanda*, *rosea*, and *splendens* have also been proved hardy in sheltered locations, and very likely many of these beautiful flowers could be made to flourish in out-door culture about Boston.

Shrubs.

It is time to think about "Shrubs." Many of them are very early in awakening in the spring, and should be planted in good season. The Dwarf Flowering Almond is an old fashioned shrub, but one that is always cherished by us, and lately we fear that it is not half appreciated by flower lovers. Its flowers appear early in the spring, even before its leaves are grown—flower buds and leaves starting forth at once, and their rosy bloom is always lovely. The Double Flowering Plum—often called the White Flowering Almond—is also very desirable. The Double Flowering Peach and Cherry are very beautiful, coming so early that their profuse flowers have few out-door rivals.

The Double Flowering Blackberry is an ancient flower, but none the less appreciated. Its blossoms look like miniature roses. They

are very hardy, and are valuable to train over rocks or against unsightly walls; though like the common blackberry, the old stems must be cut away, for the flowers are produced upon the last year's growth alone. The Bridal Rose, so well known to many of our readers, is but a variety of the Double Blackberry, and is a native of Mauritius, and is a green house plant, while our friend will grow and bloom in the rockiest nook, and with little culture.

Spireas are familiar to all. Where the Lilac and the Syringa flourish, they are found, but now their name is legion, and yearly the florists offer new beauties for our selection—among them are *Spirea leucigata*, very showy, with spikes of flowers; *Spirea thunbergia*, with delicate, graceful foliage, and pure white flowers; *Spirea bella* is of dwarf growth, with bright pink flowers; and not to be outdone by other variegated leaved plants, there is offered *Spirea folia variegata*, whose rich, dark green leaves possess a pale bright yellow marking through the centre. *Spirea humboldtii* is a hardy, herbaceous species, with elegant foliage and numerous feathery stalks.

The Tartarian Honeysuckle is always beautiful, whether in bloom or covered with its scarlet berries. It is common, to be sure; but what God has made we are not to call "common." It needs no care, after a root or even a slip is set out, and both the white and pink varieties blossom early in June. It should be seen in every yard and lawn.

Deutzias from Japan, are also lovely and bloom profusely, but they should not be pruned, as the flowers are formed upon the wood of the previous year's growth, and every twig that is cut off destroys so many blossoms.

Let us all hope that in the coming summer more flowers will bloom than ever blossomed before, and more hearts be awakened to a sense of their pure loveliness and beauty.

S. O. J.

For the New England Farmer.

THOUGHTS AND SUGGESTIONS.

Drought—Drilling in Wells—Cattle Gnawing—Stump Puller—Bone Meal on Meadow Hay—Marketing Farm Produce.

It has been a long time since the readers of the FARMER have heard from me, for which many months' sickness must be my excuse.

An unprecedented drought the past summer, with only two faint attempts at a January thaw, has left many wells yet dry in this section of country; some families the past fall having to draw water two or three miles for cattle and sheep, for want of a sufficiency of which many have died. Had not science given us steam grist mills, a resort to the old corn-pounding mortars of old colonial days would have been inevitable.

I have a well fifteen feet deep, mostly blasted in the solid ledge a century since, that in every severe drought failed until twenty-six

years ago, when I caused a hole two inches in diameter to be drilled twelve feet in the bottom, at a trifling expense, that struck a vein of water that rose up into the well and has furnished a plentiful supply for house and barn most of the time since.

One of your correspondents inquires for the cheapest and most powerful stump puller, and is directed to a triangular frame of timber placed upright and the chain drawing over in a notch in one of the points, and hitched down to a root on the opposite side of the stump. This is a good device so far as it goes, but more power is needed for large stumps. In addition to this, buy a common tackle and falls with double blocks and one inch rope, to cost ten or twelve dollars. This is needed by every farmer for many other purposes; such as dressing hogs and cattle, moving heavy stones, logs or small buildings. Hitch the head block to the chain over the triangle, and the other block to a chain fastened to another stump, tree or, if nothing better, to a post, down close to the ground. Hitch a good yoke of oxen to the rope, by taking a peculiar turn in the rope called a "cat's paw," into which hook the draw chain of the oxen and pull! Never a stump was found too stubborn to leave its native bed, short of the rumored big ones of California.

I have some one-year-old heifers that last year took to gnawing wood, stones and brick. They looked gaunt and poor, though fed on good English hay, which they ate languidly, preferring thereto oat straw, hard corn stalks, *alias* Dr. Loring's "meanest of fodder." I gave them clear bone meal, which they devoured more greedily than Indian meal. They shortly improved in appearance. Mine is not a solitary case; many cows have been gnawing board fences, bricks and red stones. I have considerable swamp hay that is hard to eat, and when eaten is but little worth. I tried lime and salt in curing, some years since, and found that to be a humbug. I have tried bone meal and salt on this hay, and the cattle eat it as greedily as they would any English hay. I believe that fifty pounds of bone meal in a ton of meadow hay would make it fully equal to as much good English hay.

An abundant crop of apples the past year has brought the farmer but a poor reward for years of care in raising orchards, and for the loss of a portion of the best land in his fields, devoted to the trees, owing to his stupidity in allowing middle men to set the prices for him. Apples are now forty cents a peck in Boston to the consumer, and only \$1.50 a barrel to the producers in the country. I think farmers should form associations, like mechanics and other business classes, and fix their own prices and place honest men in the cities, as commission men, and dispense with speculators and middlemen, thereby making it better for producer and consumer. Until farmers as a body are ready to devise some measures for their own

protection, they may well complain of the unprofitableness of agriculture. They will find to their sorrow that an eternal delving and straining of the sinews in physical force upon the soil, undirected by a corresponding effort of the brain, can never bring competency or wealth to them. Two serious barriers hedge up his way to prosperity, viz.: high taxes and high labor. The last being the cause of the great disparity of agriculture with us and the old world. The laborer here receives as much for a day's labor as he does in many of the European countries for a week. Yet such are the prices of imported and manufactured goods consumed by the laborer that he can hardly live and support his family on less wages than he now receives. Hence until some modifications of the above named obstacles in the way of the farmers are effected that shall not cause the machinery of the body politic to grate harshly on the interests of other classes, the great profitableness and prosperity of agriculture must remain amongst the things that "were, but are not." M. J. HARVEY.

Epping, N. H., 1871.

INFECTIOUS GERMS.

The spread of the new cattle disease, *epizootic aptha*, in this country, under circumstances so remarkable, has awakened in the minds of farmers and others a desire to learn something of the nature of the contagious principle, and the mysterious manner in which it is communicated from one animal to another.

An agent of infection so subtle that a dog or cat walking through a barn where diseased animals are kept, and then running four or five miles in the open air and entering another barn, infects a herd of healthy animals without contact, must be regarded as extraordinary in its nature. After all, it is no more extraordinary or wonderful than the infectious germs of small-pox, scarlet fever or measles, which are readily conveyed very long distances in the clothing, and in the air, and which remain uninfluenced by meteorological agencies, heat and cold, wet and dry. The susceptibility of different individuals to the influence of contagious germs is no less wonderful than the nature of the germs themselves. It may be said that no two persons are affected alike by them, and it is probable that the same difference prevails among animals. Indeed, we have instances of some herds attacked by the new disease, in which five, ten and even twenty per cent. of the animals remain in perfect health. They are confined in the same stalls with those diseased, and breathe the poisoned air night and day, and yet not a function is disturbed or a vital movement interfered with. Among human beings, we know that a physician, nurse, or any person leaving a room in which there is a patient sick with scarlet fever or measles, may, in passing a child upon the opposite side of the way,

communicate to it the disease; while during the same walk, another may be taken in the arms and suffer no detriment. There is a small class of persons who can never be brought under the influence of kine-pox virus, and such are usually greatly distressed in consequence of this idiosyncrasy of organization. There is but little occasion for anxiety, however, for such will usually escape the more severe disease of small-pox, if exposed to infection. In our view, those who are most readily and severely influenced by vaccine virus are the persons who will be most likely to contract varioloid, when brought in contact with the germs of small-pox; so that the feeling of safety cherished by such is not well founded. There are individuals and families in every community who are continually suffering from every form of malaria, poison, and contagion known to medical men, and certainly they are deserving of sympathy. Personal cleanliness and the strict observance of all hygienic laws are of no avail with thousands in warding off these disturbing agencies; they are the victims of an organization susceptible to the malign influences of poisons and contagions which lurk constantly in the atmosphere, and even in food and drinks.

We know but little regarding the exact nature of the germs which are capable of implanting disease in the system. That they have substance and form, no one can doubt. As distinct atoms or particles of matter, they are inconceivably small, and capable of being buoyed up or supported in air, and carried from place to place through its agency. In a barn containing animals suffering from pleuropneumonia, or from the epizootic aphtha, we must suppose the atmosphere to be loaded with the infinitesimal particles. If our eyes could be opened so that we could see the particles as we see snow-flakes in the winter, what a fearful spectacle would be presented! The disgusting, poisonous atoms would be seen flying in all directions and resting upon everything; upon the clothing of those in charge of the animals, upon the hay, upon the manure, floors, scaffolds, and upon the backs of any dogs, cats or birds which might be present. A perfect shower of infectious spores would be seen to prevail, and probably we should no longer wonder how the poison is carried so rapidly from one point to another. It is probable that when one or more of these germs are taken into the system through the organs of respiration, a kind of fermentation is set up in the blood, analogous, perhaps, to that which occurs in vegetable substances during the vinous or acetic change.

In studying disease, or any of the changes which occur in the animal organization, we must constantly bear in mind that the body is simply a piece of chemical apparatus, and that all the movements or changes that occur are simply chemical reactions of one form or another. The disease germs themselves are

chemical substances; and the difference in chemical composition gives rise to the different forms of blood poison which manifest themselves as scarlet fever, measles, typhus, &c., in human kind, and pleuro-pneumonia, hoof and mouth disease, &c., in animals.

There is reason to suppose that scarlet fever, measles, and typhus ferments resemble albumen in complexity, and like albumen they may be altered in composition and action by heat, alcohol, and other agents. Small pox ferment is of a different kind, and is remarkable for the small quantity of substance which produces such extraordinary changes. An atom so small that a microscope of the highest power is incapable of defining it, enters the system through the lungs, and passes on into the blood, and from thence into every texture, nerve, and secretion. In a few days the chemical actions of oxidation and nutrition throughout the whole body are completely altered, and the little particle of matter has reproduced itself infinitely. Pustules appear over the whole skin surface, each one loaded with an infinite number of germs identical in nature with the original particle which set in motion the train of disorganizing forces. There is general peroxidation going on; there is inflammation of the ears, the eyes, the mucous membranes, the joints, the serous membranes; everywhere there is great chemical disturbance. This is *small pox*, and the terribly disgusting, wretched condition of the bodily functions is due to the introduction of a particle so infinitesimally small that no optical instrument can discern, and no balance can weigh it.

The poisonous germs producing intermittent fever, or *fever and ague*, from whatever source they may arise, are probably of a highly complex and nitrogenous nature, and are capable of being dried and carried great distances by the wind. They enter by the mouth with the dust, pass into the blood, and soon produce a kind of fermentation, which results in high fever preceded by a chill. After this is over, the poison is spent in part; but during the remission of from one to three days, sufficient is reproduced to go through the same action again. This remarkable poison, producing intermittent chill and fever, will work on, unless utterly destroyed by medication, until the victim is so far weakened as to falter and die. The ague ferment is totally unlike that producing small pox and measles, for by the action of the latter the textures of the body are so changed that they are incapable of going through the same process again; but one can have ague a dozen or more times in the course of his life. It is indeed a great mercy that some of our worst zymotic or infectious diseases can attack us but *once*.

We might as well expect to learn the nature of soul or spirit, as to expect to obtain any precise knowledge of the chemical differences in the germ poisons which affect men and animals. How can we ever know any-

thing regarding the actual difference between a germ producing pleuro-pneumonia or disorganization of the lungs in a cow or ox, and one producing suppurating sores and ugly ulcers in the mouths and hoofs of the animals? Both are specific poisons, exerting specific action upon different parts of the animal organization. It is inconceivable how this can occur; and yet perhaps it is no more inconceivable or mysterious than most diseases, which, after all, are but derangements of the chemical reactions or forces of the animal economy.

We can manage and control chemical changes quite perfectly when they occur in organic bodies, and, thanks to science, we can manage tolerably well those which occur in the human or animal organization when they happen under ordinary conditions, and are not of too violent a nature. There is a class of reagents called "remedies," which, when rightly used, serve to control in some degree destructive chemical action in the body. We have learned that the poisonous germs which we have had under consideration cannot maintain their vitality in the presence of certain chemical agents, among which are carbolic and cresylic acids, sulphurous acid, the chlorides of some of the metals, etc. These destroy the life of spores, as arsenic or prussic acid destroys life in the human body, and therefore they are the proper agents to employ to arrest the spread of infectious diseases. By the exercise of proper caution, and by observing the laws of hygiene, by keeping the body clean, and the blood in good condition, by plenty of air and exercise, we can in a considerable degree fortify ourselves against the attacks of poisonous germinal affections.—*Dr. Nichols in Journal of Chemistry.*

THE AMERICAN IMPROVED IMPERIAL SUGAR BEET.

We published last year what information we could obtain in relation to the cultivation of this variety of roots for farm stock. We have recently received inquiries for further particulars, which we have been unable to answer until now. The following article is announced by Mr. Henry Lane, of Cornwall, Vt., who has had much practical experience in raising these beets, and also the seed which is advertised in this paper.

Soil.

A light sandy soil is least suitable to the growth of the sugar beet, while the various loamy soils, and especially those containing a large proportion of clay, are best adapted to its growth.

Preparation of the Soil.

In the first place, all stagnant water, either on the surface or within reach of the roots of the beet, should be removed by thorough

drainage. Although the beet requires a large amount of moisture to carry on a vigorous and healthy growth, yet I know of no plant that will show the presence of stagnant water quicker than the beet, by its assuming a yellowish hue and sickly aspect. It will not extend downward its usual length, but on reaching water will divide into numerous small fuzzy roots, which spread in all directions, to the great injury of the crop; hence in the preparation of most soils, and especially clay soils, thorough drainage is necessary. Land intended for beets should be kept in a high condition by a liberal application of fine manure,—at least twenty-five loads per acre. If your soil contains quite a per cent. of clay it should be ploughed in the fall, as the action of the frost will mellow it. Avoid sowing on turf land, for the turf will obstruct the taproot and thus induce a development of fuzzy lateral roots, much to the injury of the crop. After the manuring and ploughing has been done, harrow the ground until mellow, ridge with the double mould-board plough, making the ridges thirty inches apart, and flat down the ridges with a garden rake. I sow with a seed sower, at the rate of four pounds of seed per acre.

Time of Sowing.

The success of the crop depends very much upon early sowing. The very first suitable weather after the frost is out and the soil sufficiently dry to be worked should be improved even if this is as early as the middle of April. Beets after growing to one-half inch in thickness, form a concentric ring or layer about every fifteen days; these vary in number from six to ten, depending upon the length of the season after planting. The oldest leaves are those at the bottom of the crown and are in direct communication with the oldest and central layer. As new leaves are formed new layers are formed, the central leaves on the top of the crown communicating with the last and external layer; each succeeding layer being external to the one preceding it, the diameter and bulk of the root increases in an increased ratio,—the last two being at least equal to the four internal ones, consequently doubling the crop, and this generally after the first of September.

Distance between Rows and Plants in the Row.

I would not have the distance between the rows less than two feet, nor more than two and one-half feet. This latter distance I consider the best, as it gives more space to run the cultivator. It is always better that the crop should be made up of large sound roots than that it should consist of a great number of smaller ones, even though the weight be the same per acre. The large roots require less labor from the singling out to the final harvesting of the crop, and indeed till they are fed out. I have the plants eighteen inches apart in the row. If the plants stand eighteen

inches by thirty, there will be 11,616 per acre. At this distance, each beet weighing eight pounds, would give to the acre forty-six and one-half tons.

Singling and Hoeing the Crop.

After the plants have put forth their second pair of leaves, the cultivator should be run between the rows, and the bunching should follow. This is done with a hoe, cutting out twelve or fifteen inches, leaving about three inches in the drill untouched all along its length. Soon after bunching, the singling and weeding should be performed. After the singling out and the first weeding is performed, the after labor is all accomplished with the hoe and cultivator, requiring but little more labor than an ordinary hoed crop. Beets require a large amount of moisture, and frequent tillage, keeping the surface light and porous, the soil will retain this necessary moisture.

Harvesting.

In ordinary seasons, the middle of October is the best time for harvesting this crop. This variety of beet can be lifted by hand without the use of a fork. The roots when pulled are left lying in the rows until dry, the tops are removed by wrenching them off by hand, or cutting with a knife. If the knife is used, care should be taken not to injure the crown of the beet. As the tops are removed, place the roots in heaps to dry and go through the sweating process, previous to their removal to the cellar. Protect them at night and from storms, with their own leaves. After two or three days, they can be stored in the cellar for winter use, and if stowed dry, will keep sound, even if hundreds of bushels are placed in one pile.

Cost of Raising.

If we will make a field crop of the beet, avoid the old practice of doing all the labor with the hoe, thumb, and finger, giving them clean culture by the frequent use of the horse cultivator, they can be raised for five cents per bushel, of sixty pounds. At this low cost, and considering their great value as food for cattle, sheep, and swine, how can a farmer think of wintering his stock without his cellar of roots? This subject is well deserving the attention of all farmers. HENRY LANE.

Cornwall, Vt., 1871.

FUTURE WEALTH OF THE UNITED STATES.

Mr. E. P. Whipple contributes to the March number of the *Atlantic Monthly* a very readable essay which he styles "Shoddy." Of the future resources of this country he takes a very hopeful view, as will be seen in the following extract:—

"Of the enormous undeveloped resources of the United States, it is difficult to speak with-

out an appearance of exaggeration. The taxable value, which all men of property well know is far below the exchangeable value, of all the property in the United States was, in 1860, in round numbers, \$16,100,000,000, showing a rate of increase, in ten years, of a fraction over one hundred and twenty-six per cent. It has been computed that if this rate is preserved through the next four decades, the taxable value of the United States would, in 1870, be \$36,500,000,000; in 1880, \$82,800,000,000; in 1890, \$187,300,000,000; in 1900, \$423,300,000,000—an increase of wealth which will be over eight times our estimated increase in population. Vast as these sums appear, drowning in their sound all shoddy groans over our predicted financial ruin, and making our big debt of two billions and a half shrink by comparison into dwarf-like dimensions, there is no reason that they should not be realized provided the brain of the nation adequately seconds its hands. Massachusetts, with an area of only 7800 square miles, now owns a seventeenth of the whole taxable property of the nation. If the other States, with greater natural advantages, should increase, during the next thirty years, so that their wealth should bear the same proportion to the square mile of territory which the wealth of Massachusetts now does, the property of the nation in 1900 will be \$415,000,000,000."

GRAFTING GRAPE VINES.—At a recent meeting of the Horticultural Society of Western New York, D. S. Wagener gave a description of the method he adopts in grafting the grape vine. He grafts from early spring till last of June. The grafts are cut early the previous winter and packed in saw-dust. He grafts a little below the ordinary surface of the ground and covers with earth. The moisture of the soil is preserved by two inches of mulching. The cleft is sawn in without splitting. He has set the Delaware and Isabella roots with good success, and in one instance had a crop of grapes the same year. A strong stock is desirable, such as Isabella, Catawba, and Diana. The Rebecca does better on a strong stock than on its own roots.

A CHEAP HOT-BED.—Get a common, large "W" goods box,—as large as you like, or several of them if you need so many. Fill it with fresh, dry stable manure, and water it gently as you put it in. When the box is two-thirds full, put on about two or three inches of rich, fine soil, and sow your seed; then put a common window sash—or make one to fit—over it, and put the box in a sunny spot, sheltered from the north and west winds. Water occasionally, and give air on hot days. You will thus have plenty of fine plants at small cost. Even a common barrel will answer a pretty good purpose.—*Rural New Yorker.*

IS IT ECONOMICAL TO DRAIN?



UR "Walks and Talks" with the farmers of New Hampshire during the late winter, have developed the existence of a spirit of inquiry everywhere, indicating that there is more interest among farmers

in their vocation than there has been at any time during the last twenty-five years. Trans-

ferring so much labor from human hands to horses and machines has afforded more opportunity for observation and thought, which in many cases have led to more profitable results in practice.

In a conversation with Mr. BENJAMIN DAVIS, of Chester, N. H., he stated some modes of operating in excavating for drains which materially reduce the cost of the work, and which may be adopted by all.

His farm is on one of those high swells which are common in that region, and are called granite soils; that is, soils made up, as we suppose, mainly of three minerals, quartz, feldspar and mica. But, as it is said by geologists and chemists that some varieties of granite contain lime and phosphates in fair proportions, we presume these swells do, for when not too wet they are fertile soils. They are quite adhesive, too, for most of them are underlaid by a stratum of clay, some twelve to eighteen inches below the surface.

Mr. D. commenced making ditches on some of the highest portions of his land, which were so soft as to make it slow and uncomfortable for both men and teams. He first ploughed, turning the furrows right and left as long as the oxen could walk in the ditch. He then made a yoke six feet long, which enabled the oxen to walk one each side of the ditch, and thus loosened the earth so that the work proceeded twice as fast as when they broke it up with pick and bar.

After going down about three feet, the bot-

tom of the ditch was brought to a regular slope, stoned up on each side, and covered at the top with stones, thus leaving a channel six or eight inches square for the water to pass through. The ditch was then filled to within a foot of the surface with small stones and covered with the soil which had been thrown out. The bottom of the ditch was on the smooth hard pan, and will probably form a sufficient water-course for many years. No seeding or fertilizing was done. He gave the cold, standing water an opportunity to run off, and left Nature to pursue her own courses afterwards.

The results, he states, were surprising, and exceedingly gratifying; for where he had formerly cut less than a ton of hay, consisting mainly of a variety of water grasses, with a slight show of dwarfed timothy and reedtop, he gets now from one and a half to two tons per acre of the latter varieties. The water grasses have disappeared. In another portion of the town, on similar land, on the farm of Mr. JOHN WEST, the results of draining alone, were equally favorable. He states that in one year after the drainage was completed, on land where the yield of grass was scarcely worth harvesting, the crop of English grasses was too heavy to be comfortably made into hay on the ground where they grew!

Similar examples exist all over New England, and still there are thousands of acres of wet lands,—on the hills as well as in valleys,—which bear only a meagre crop of poor grass, which might be made, at little cost, to yield a ton or more of the best quality of hay per acre, annually. With cheaper modes of digging the ditches,—as Mr. Davis' practice suggests,—much more of this improvement will undoubtedly take place hereafter.

If farmers will make accurate comparisons between the profit of getting twenty tons of hay from twenty acres, and the same amount of the same variety of hay from ten acres, they will be much more likely to drain some of their lands than they will without such comparison.

Taxes on twenty acres instead of ten, fencing, ploughing and otherwise preparing, seeding, cost of travel over twice as much land, greater risk in drought, &c., are all to be taken into account. In one case there might be an abundantly compensating profit,—in the

other, just enough to eke out a subsistence, under a system of the most rigid economy, while the progress of the farm and its people would be downward, instead of upward.

NEW PUBLICATIONS.

THE AMERICAN HERD BOOK, containing Pedigrees of Short-horn Cattle, with Introductory Notes, by Lewis F. Allen, Buffalo, N. Y. Volume X.

Though tolerably well posted as to the rapidly increasing popularity of the Short-horn cattle in this country, we think most persons will be surprised by this bulky volume. Heretofore two years have intervened between the dates of previous volumes. This is issued only thirteen months after volume nine. Judging from the past, the editor assumed, in his prospectus, that probably some 3200 entries would be made, requiring a volume of 600 pages. But so marvellous has been the increase of American herds of Short-horns that the pedigrees offered amount to nearly 5000, and the volume is swollen to over 900 pages, without including the 72 portraits with which the volume is illustrated,—most of which are on stone, and all of superior workmanship.

The editor congratulates our Short-horn breeders on the success which has attended their efforts to increase this noble race of neat cattle; alludes to the fact that the American breeder has demonstrated that he can not only equal the English breeder in the merit of individual animals, but that the English breeder, recognizing the value of our American blood and breeding, now sends here for crosses to maintain and still further improve at home the blood from which they sprung; and speaks of the vast grazing regions opening at the West and South, wonderfully favorable to the growth and extension of Short-horn cattle, as well as of their increasing popularity in the older States. He also mentions the importation during the past year of cows which cost in England \$7500, gold; and of sales here of cows at \$3500 to \$8000 each; and of \$7500 being offered here by an English breeder for two yearling heifers of the Bates' Duchess family, and of \$5000 and \$5750 for bulls of American breeding.

The price of this volume, based on the conditions of the editors' prospectus of \$6 for 600 pages and \$1 per 100 pages additional, is \$9 per copy by express and \$9.60 by mail, post-paid. Remit by check on a New York bank, Post-office order, or registered letter, to the editor, Buffalo, N. Y.

FRANK FORRESTER'S Horse and Horsemanship of the United States and British Provinces of North America. By Henry William Herbert, author of "Frank Forrester's Field Sports," "Fish and Fishing," "The complete Manual for young Sportsmen," &c. Revised, corrected, enlarged and continued to 1871, by S. D. & B. G. Bruce. With thirty original Portraits of celebrated Horses. In two volumes. New York: Geo. E. Woodward, Publisher, 191 Broadway. 1871.

Because we do not approve of the union of the race course and the agricultural fair, it is not necessary that we should disguise our admiration of

the horse, nor our interest in horse books. "The Horse of America," by Henry Wm. Herbert,—better known as "Frank Forrester,"—was published in 1857, and has long been recognized as standard authority by horsemen. The present beautiful edition continues the pedigrees, performances and the importations of both thoroughbred and trotting horses down to 1871, including histories of Asteroid, Kentucky, Dexter, Lady Thorn, Goldsmith Maid, Thornedale, Bashaw, Jr., Rysdyk's Hambletonian, Eriesson, Edward Everett, Young Morrill and imported Leamington. Twelve new steel engraved portraits of the most famous representative horses have been added to those in the first edition, making thirty in all. The "Racing and Betting Rules of the American Jockey Club," the "Rules of the Kentucky Association," and the "Rules and Regulations of the National Association for the Promotion of the interests of the American Trotting Turf," are also given. The work is published in good style; the two volumes comprise about 1300 pages, and are sold for \$15.

THE APPLE CULTURIST. A Complete Treatise for the Practical Pomologist. To Aid in Propagating the Apple, and Managing Orchards. Illustrated with Engravings of Fruit, Young and Old Trees, and Mechanical devices employed in connection with Orchards and the Management of Apples. By Sereno Edwards Todd, Author of "Todd's Young Farmer's Manual," "American Wheat Cultivist," "Todd's Country Homes" and "How to Save Money." New York: Harper & Brothers. 1871. 334 pages.

Those familiar with Mr. Todd's previous publications, so fully enumerated in this title-page, will know what to expect of the present volume; and the admirers of his style will not need any commendation from us. We are however a little surprised that the discovery of the fact that "there is no little manual on apple orchards in all our agricultural and pomological literature which a beginner may study as a reliable guide in every branch of apple culture," should have been made so late as 1870, by Sereno Edwards Todd or any other man. But the deficiency is now happily supplied, and at last we have a book in which "a satisfactory answer will be found to almost any question that an inquirer after pomological truth touching the apple may ask." The author hopes to induce beginners to plant trees in early life, but for the encouragement of those who have put off the work to old age, he tells the story, on page 17, of a man in Ohio, who planted an orchard after he had passed the age of threescore-and-ten, and lived to eat fruit for several years from that orchard, and "to get drunk on the cider made from the apples of those trees!"

TO CORRESPONDENTS.—We owe you, good friends, one apology which we are always glad to pay,—and that is to give the reason why we are unable at this season to publish promptly all the articles which you have prepared for our columns during the long evenings and comparative leisure of the winter months. Our long columns, compact type, and condensed style are not quite equal to the

task of keeping up with your pens. As the evenings are shortened, and as spring's work comes on, we shall gain on you. Large as is the pile of deferred letters now, we shall wish it was larger by harvest time. None of your favors will be overlooked or forgotten.

THE FOOT AND MOUTH DISEASE.

When the Commissioners on Contagious Diseases among Cattle for Massachusetts first issued their order to prevent driving cattle from the markets into the country, there was much discussion among market men and farmers in relation to the subject,—many of the dealers, especially, regarding the inhibition as arbitrary and unnecessary. The reports in relation to the extreme contagiousness of the disease were discredited by many. We chanced to be present when a company of some twenty butchers and drovers were conversing on the subject. A person present stated some facts which tended to show that the disease might be communicated to his own herd by a person who should visit diseased animals in the stable of a neighbor, by the virus which might adhere to his boots or other parts of his dress or person, and thus be conveyed to his own stock. The probability of the truth of this statement was promptly questioned by several, and the individual who made it was told that he had better spin his yarns among those who knew less about cattle and their diseases than men who had handled stock all their lives. "If that is the case," said one, "none of us should be allowed to walk the streets, and the commissioners ought to arrest and shut up every one of us." "Or," replied another, "it might be better to arrest him who goes about making such absurd statements."

The subsequent experience of stock owners in Massachusetts has at least demonstrated the fact that the disease is very contagious, and we think our readers will be interested by an article in another column on this subject, written by Dr. Nichols.

EXTRACTS AND REPLIES.

TUMOR IN A STEER'S CHEST.

Can you or some member of our worthy Club tell what was the matter of my neighbor's steer, which was first discovered to be unwell in the morning, by his being somewhat bloated and appearing to have a chill,—(the weather was mild.) By stirring him around the yard, he ceased to shake, but continued to bloat until his skin was as tight as a drumhead. He dunged quite natural, but seemed in great distress, and died in the afternoon. My neighbor gave the common dose, soap and molasses, &c., and bled him in the tail, which did not relieve him.

On a *post mortem* the only thing we could discover which would cause death, aside from the bloat, was in the neck, a little above the brisket, surrounding the *swallow* pipe and above the wind-pipe. Then there was a *gelatinous mass* filling a cellular tissue for about eight inches; said mass being of yellowish, translucent appearance and forming a tumor or swelling as large round as a

half gallon measure. The lungs were collapsed and a little blotched with dark bloody spots, but nothing more than we often see in dressing a beef creature, only the spots were darker colored. Now, Mr. President, what killed the steer?

Addison County, Vt., Feb. 18, 1871.

T. B.

REMARKS.—It is our opinion that the steer in question died from the mechanical effect of the tumor, or gelatinous mass, which surrounded the *esophagus* or "swallow pipe." We think a tumor could not grow to the size of the one described, and in that situation, without pressing the *trachea* or "wind pipe" to such an extent as to prevent the free passage of *oxygen* to the lungs, and of *carbonic acid* from the lungs. Consequently, the function of respiration was imperfectly performed—so imperfectly, indeed, at the last, that the carbonic acid, thus accumulated in the system, produced its legitimate effect; that is, it poisoned the animal. Carbonic acid is a narcotic poison; and, when it exists in the living animal or person, in any considerable quantity, whether generated within the body or introduced from without the body, it is sure to kill. The bloat, or accumulation of the gas within the abdomen, was, doubtless, produced by the same cause.

Now, if we could know what caused the tumor, we should be in possession of the entire chain of morbid causes connected with the case. But the primary or exciting causes of that abnormal action which results in the growth of a tumor, are not well understood. Blows and other mechanical injuries are oftentimes the cause; but tumors of various kinds make their appearance in beasts and in men, which can be traced to no cause of which we have knowledge. We know them to be the product of the abnormal development of *cells*, having a peculiar form, but concerning the cause or causes of such a development, we are very much in the dark.

J. H. S.

CULTIVATION OF MUSTARD.

Will you or some of your readers give us some information on the cultivation of the *mustard seed*; stating where it is chiefly raised, the soil best adapted to its cultivation, the quantity of seed required per acre, manner of cultivating and harvesting, and the yield that may be reasonably expected per acre. Some of us here think we must raise something for our Eastern markets, which, like gold, will represent great value in a small bulk.

D. S. CHASE.

Fremont, Nebraska, 1871.

REMARKS.—Possibly some of the readers of the FARMER can answer your questions. We can do but little towards it. We believe mustard was raised over thirty years ago on the rich soil of the Muskingum River in Ohio, and in other parts of the West. It was sown in rows two feet apart, and the plants one foot apart in the rows, and tended in garden style. The seed on the lower branches ripen first, and hence it is necessary to cut them off at different times, because if all is harvested together the seed in the upper branches is immature, shrinks, moulds and injures that well ripened. The yield is from ten to fifteen bushels per acre, though

as high as seventeen or eighteen have been produced.

POULTRY ACCOUNT.

Below you have my year's account of fowls and ducks, which shows rather small profits the last year. Owing to ravages of cats and rats I was obliged to sell them as soon as hatched, and purchased grown up fowls for this year's stock.

<i>Stock, January 1, 1870.</i>		<i>Dr.</i>
31 fowls, Brahmas and Leghorns at 75 cents	\$23 25	
12 Muscovy Ducks, at 75 cts.	9 00	\$32 25
<i>Cost of Keeping, &c.</i>		
5 bush. corn siftings	1 00	
31 b. shorts, \$12.25; 24 b. meal.	37 65	
24 b. C. corn, \$25.30; 30 b. corn, \$30.95	56 25	
24 b. oats, \$17.65; 27 fowls, \$24.15	41 80	
1 drake, \$1.50; 3 doz. Leghorn eggs \$1.35	2 85	
316 lbs. scraps, \$6.32; Sulphur, \$1.25	7 53	
Pepper, 70c; nails 21c; bucket, 35c.	1 26	
W. brush, 75c; boxes, 40c; g. bone 15c	1 30	
Dressing poultry and labor	14 00	
41 doz. and 8 hens' eggs set, at 37½c.	15 61	
18 doz. and 8 ducks' eggs set at 47c.	8 78	
		\$188 08
Total,		\$220 33

<i>Stock, January 1, 1871.</i>		<i>Cr.</i>
37 fowls at 75c, Brahmas and Leghorns,	\$27 75	
12 ducks at 75c, Muscovy,	9 00	
11 late chickens, at 50c.	5 50	\$42 25

<i>Stock and Eggs sold.</i>		
114 doz. and 11 hens' eggs, at 37½c.	43 30	
7 doz. and 8 ducks' eggs, at 47c.	3 82	
82 chickens, \$62.30; 105 ducks, \$63.27	125 66	
25½ bbls. manure, \$28.50; feathers, 75c.	20 25	\$202 03

<i>Consumed in the house.</i>		
54 doz. and 3 eggs' at 37½c.	20 34	
17 doz. and 6 ducks' eggs, at 47c.	8 22	
5 ducks 30½ lbs. at 25c, 12 lb.	7 62	
		\$36 18

Total,	\$280 46
Cost and expenses	220 33
Profit	\$60 13

I now have 36 young chicks hatched since Jan. 4, and 4 hens sitting. JAMES BUFFINGTON.
Salem, Mass., Feb. 18, 1871.

KNEES OF A HORSE INJURED BY STANDING ON INCLINED FLOOR.

I would like to inquire for a remedy for a horse whose knees have been sprung for want of exercise and by standing on a steep floor. The cords are not set and he is not lame. He can straighten his knees but they are a little inclined forward and seem to be weak. He has not been in this condition but a little while, and is a valuable horse.

D. B. THURSTON.

Franklin, N. H., Feb. 20, 1871.

REMARKS.—Dr. McClure recommends the frequent application of cold water, by bandages or otherwise, for cases of slight strains. And for a liniment, two ounces each of oil of olives, oil of turpentine, and tincture of aconite roots, mixed and applied once a day until the skin becomes a little rough or swollen. Others may know of a better treatment of this particular case.

KILLING BUTTERFLIES.

E. N. S. will find crushing the thorax between the thumb and finger (wings turned back) as practicable as any method of killing butterflies or

moths. It is very easily performed, and not attended with the inconvenience of always having some suitable vessel at hand in which to despatch the specimen, when benzine or ether is used as the life-destroying agent.

A butterfly or moth should not be left to become dry or stiff before being put upon the pinning board, the wings drawn forward into a natural position and secured by light weights, then left to "set," to speak in collectors' terms, which will require from fifteen to twenty days for butterflies, and longer still for moths.

Procure the Report of the Department of Agriculture for 1868, which contains some very practical instruction in these matters, describing the method of pinning, the best pinning board of which I have any knowledge, and various other "traps" convenient for collectors.

I have learned by experience in these matters, allow me to add in this connection, that *alcohol* *diluted with sulphuric ether*, in which to kill beetles, is preferable to pure alcohol, or any "solution" whatsoever. It appears to preserve better that metallic lustre with which so many insects belonging to the order Coleoptera are so beautifully marked.

E. M. GOODWIN.

Hartland, Vt., March 6, 1871.

ORCHARD GRASS.

The more I become acquainted with this grass the better I like it. Not the least among its merits is its hardness. It stood the hot, dry weather last summer better than any other valuable grass with which I am familiar. It should be sowed thick, I think two bushels not too much seed for an acre; and it must be cut early, before it is in full bloom, to have the hay of the best quality. On rich moist land it is as sure to yield three crops in a year, as is red-top to give one. Unlike clover, it never inclines to blossom but once in a season; the second and third crops are mostly leaves, and the best feed for cows in winter I ever grew. It is a good grass to sow in early spring with clover, but without grain. Two good crops of leafy hay may be counted on the first year, and three crops a year afterwards, as long as the land will carry it out. I believe it the best of grasses to sow where I intend to keep the crop up by top dressing. The dressing should be spread immediately after removing the hay, and should be well bushed down, then the new crop will come up and in a very few days, cover the ground and keep it from drying. I would recommend it to any one who is not afraid to begin haying the last of May or the first of June. By the 10th of June it is in full bloom in this latitude, and past its best condition for hay. I have grown it five years, and like it so well that I intend to sow it this spring on the whole of my reclaimed meadow.

A. W. CHEEVER.

Sheldonville, Mass., Feb. 15, 1871.

BARN ITCH.—BIG PORKERS.

I have taken the FARMER from its commencement, and often wish I had time and ability to answer some of its inquiries. I was interested by that in relation to the barn itch, as I have had animals troubled with that disease. I trade in cattle to fatten. On my cattle the trouble commences around the eyes; the hair comes out; the skin looks white and scurvy, and soon the disease spreads over the head and neck, and if not stopped, will extend all over the animal, and continue until the middle of summer. It causes excessive irritation of the skin. I have generally found cattle that have been wintered in cold places and on poor meadow hay mostly affected. It generally spreads throughout the whole herd that is kept in one barn or yard or pasture. When the itch is only in spots, sulphur, lard and tar in equal parts applied two or three

times will cure. Where cattle have had it two or three years, it is harder to cure; but add to the above ointment one-third as much strong tobacco juice and I have never known it to fail of curing.

Two good Chester County hogs have recently been killed in this town—one by Geo. Carpenter, 732 pounds, one by Jesse Dort, 643 pounds.

N. O. HAYWARD.

Gilsun, N. H., March, 1871.

RELIEVING CHOKED CATTLE.

A cow was recently choked by a piece of cabbage stump. One of the neighbors, after pressing externally on the wind pipe, said the piece was lodged just below the gullet. Others thought it must be lower down. So a whip stock with a ball on the lower end was pushed down her throat as far as possible, perhaps three feet. Then a rake handle was used, and entered the throat as far as a strong man could force it. Not removing the obstruction or relieving the cow, she was killed, and the piece was found where the neighbor referred to, said it was. Two other cases near here were similarly fatal. In one the gullet was supposed to be the obstruction, and it was smashed, and the passage to the stomach broken through by the force used to push the piece down into the stomach. A farmer said to me, he could relieve any ordinary case of choking at once, by holding open securely the mouth of the animal while his son passed his hand down the throat and removed the obstruction. Is there a safer or more certain method of relief?

WHITE SPECKS IN BUTTER.

At the late Vermont Dairymen's meeting the cause of white specks in butter was briefly discussed. As usual, when this subject is up, there seemed to be a diversity of views. These specks appear more common in the warmest weather of summer and the coldest of winter; caused, I have thought, by the high temperature of the air, in both cases, while the cream is rising. In summer a warm current of air or wind passes over the surface of the cream, and these specks, a cheesy substance, are formed, (*how*, science should explain) and in winter, the milk is set too near the fire, and a like result follows. If the milk is properly cooled at or before setting in summer, and the right temperature of the room maintained at all times, in both summer and winter, I think the specks will not appear. If this view is incorrect, will somebody tell us what is the cause. Roy.

HOW LONG A WAGON WILL LAST.

Mr. Rollin's statement about an aged wagon that had been used some forty years interested me much. I have worn out two new wagons in thirty years and am building my third one this winter. I think Mr. Rollin's wagon must have been housed most of the time. He also said he has had the tire set twice on the hind wheels and once on the fore ones. I find that I wear out three sets on the fore wheels where I do two on the hind ones.

S. DENHAM.

South Hanson, Mass., Feb. 18, 1871.

MILKING COWS TILL THEY CALVE.

A "Young Farmer" in your paper asks what is the foundation for the belief that it hurts cows to milk them up to the time of calving. From my experience of forty years as a farmer, I would answer, that a cow so milked will almost invariably become full of garget; she will have a small and inferior calf; it will cost more to keep her, and at eight or nine years old she will be used up as a good milker. While a cow in the prime of life, if kept properly and allowed to run dry two or three

months in which to recruit, will come in naturally, remain healthy, and last much longer. I have known a large number of high priced cows spoiled by this practice. I remember one owned by a neighbor, which was considered the best cow ever owned in this neighborhood, which was spoiled by so milking. At seven years old, her udder became so full of garget that a hole rotted through on the side of the udder, and one-quarter arter turned inside out.

D. KIMBALL.

Bradford, Mass., March, 1871.

USE OF CARROTS FOR COLORING BUTTER.

I have used carrots for coloring butter for years through the winter season, and think there is nothing that exceeds them for making butter look nice and giving it a good taste.

For cream enough for eight or ten pounds of butter, I take two or three good sized orange carrots, scrape off the outside, then wash clean and grate them, then add from a pint to a quart of new milk, right from the cow; then stir it, strain through a cloth strainer and add the liquid to the cream before churning.

Mrs. J. B. JACOBS.

Willsborough, N. Y., Feb. 28, 1871.

MILK CLOSET.

In reply to the inquiry of "A Farmer's Wife," of Heath, Mass., in *FARMER* of Feb. 11, I would state that I have a wide door, which I leave open about an inch. It has a wooden button to fasten it, which I keep always turned, so that the door cannot shut close, and sometimes at night I leave it wide open.

CARRIE.

Worcester Co., Mass., Feb. 11, 1871.

AGRICULTURAL ITEMS.

—It is surprising in what a poor soil a weed will thrive and rear its vigorous progeny.

—The average yield of corn to the acre throughout the Southern States last year was twenty-six and a half bushels.

—A Mississippi planter has raised fifty-two bales of cotton from fifty acres of land by Swedish labor, with which he is much pleased.

—Twenty-three sheep of a farmer in Greenfield, Mass., have had thirty-four lambs this spring—eleven pairs of twins.

—The lands of the agricultural college of Missouri comprise 240,000 acres. Some of them will be for sale or lease by the 1st of March proximo.

—Mr. W. Bartholomew, of Sheffield, Mass., worked up about 19,000 bushels of apples in his cider mill this fall and winter.

—It is stated that the location of the farm of the Vermont Horse Stock Company is practically settled in Shelburn, Chittenden County, Vt.

—An Iowa paper tells of a smart wife who helped her husband to raise seventy acres of wheat. The way she helped him was to stand in the door and shake a broom at him when he sat down to rest.

—A Scotch farmer says that long experience has convinced him that for most purposes on a farm, gas lime is equal to quick lime, and it costs less than half.

—A hog raised in Illinois was recently butchered by Mr. Squires, of Boston, that weighed, dressed,

939 pounds. It measured eight feet six inches in length, and five feet five and one-half inches round. This is said to be the largest hog ever seen in Boston market.

—It is predicted that Florida will become one of the largest sugar producing localities on this continent. The climate and soil are admirably adapted to its culture, and the crop is sure.

—Fences should be built in season, and sufficient to stop the cattle, and make the farm to be secure; especially between your field and your neighbor's. Good fences save a vast amount of annoyance; bad ones are a fertile source of trouble.

—The whole number of market wagons bringing the different varieties of meat, vegetables, &c., to Faneuil Hall market, during the month of February, was as follows:—Variety, 68; hogs, 13; beef, 748; vegetables, 399; tripe, 69; mutton, 485.

—The statement is made, but we do not know on what authority, that the farmers of the United States annually expend \$20,000,000 in reaping and mowing machines. The annual production is now estimated at about 125,000 machines.

—A correspondent of the *Prairie Farmer* travelling in Texas expresses the opinion that the supply of Texas cattle in the quantity brought forward during the last few years cannot continue, and that prices must necessarily advance.

—Michael Curtin of New Marlborough, Mass., on going to his stable one morning recently, found four of his cows choked to death in consequence of pulling the stallion frame, to which they were fastened, over upon them.

—The country produced 1,100,000,000 bushels of corn in 1870, at the rate of twenty-eight bushels per acre, against twenty-three bushels in 1869. At fifty cents a bushel our corn product is worth twice as much as our cotton product at fourteen cents per pound.

—Sixty years ago a raft of hard-wood logs sank in Goose Pond, Swanville, Me. Last fall, during the low stage of water, some of them were recovered, and the *Belfast Journal* says they are as sound and firm as ever, with the exception that the layers of wood are separated, like ready-made basket stuff.

—General Grant has a dairy farm near St. Louis, with a fine stock of cows. A choice lot of Alderney and Holstein cattle, of vast milking capacities, together with a select number of Ayrshire heifers are also on the way to the Presidential farm, and it is said he will soon have the finest dairy in the country.

—A correspondent of the *Country Gentleman* gives the particulars of a case where a man's barn and all his winter stores of hay and grain were consumed in a night; his neighbors all turned out, built him a new barn at once, and offered to assist in wintering his stock, taking a head or two apiece, and returning them in the spring. Thus his loss was greatly reduced, and he was assured of the

more durable riches of brotherly love and neighborly good will. No one can compute in money the value of one such example of a noble liberality in a community, especially in its influence upon the young.

—Mr. H. M. Arms, of Springfield, has sold to Mr. A. W. Griswold, Morrisville, Vt., the celebrated Short-horn bull, 4th Lord Oxford, by 6th Duke of Thornedale out of 2d Lady of Oxford; and Mr. A. W. Griswold has sold to H. M. Arms a very promising bull calf by 14th Duke of Thornedale out of 2d Lady Mary by Climax.

—The Durham bull owned by Alphens Davis, of Charlton, Mass., and which won four first premiums, one at Worcester and three at Sturbridge, was slaughtered several days ago. He measured seven feet ten inches from head to rump, and his girt was seven feet nine inches; live weight 2160 pounds; dressed weight 1399 pounds; age five years.

—A correspondent of the *Maine Farmer* says:—"In the year 1856 I purchased an out farm for a pasture. There were some twenty acres of wood upon it. Finding a few small pines among the hemlocks, from two to four inches in diameter, I pruned them as high as I could reach. Lately I found them grown into tall trees over a foot in diameter, with no signs of where the limbs were taken off, with green, smooth thrifty bark."

—A correspondent of the *Western Rural* gives the following as his cure for scratches in horses, which he has used for several years, and says it is excellent for galls and most sores: One ounce red precipitate, one ounce Burgundy pitch, one ounce Venice turpentine, simmered in one pound of fresh lard or butter, well stirred while simmering. When the ointment is cool apply to the affected parts daily until there is no farther occasion for the remedy.

—A market gardener of Lake county, Ill., says that he has the most remarkable success in the use of salt upon his tomato plants. He applies it at various times during the season, and in every case its effect is marked in the increased growth of both plant and fruit. In some cases, he lays the roots of backward plants bare, sprinkles them with a tablespoonful of ordinary barrel salt, and covers with soil. Plants treated in this way take an immediate start, and develop fine fruit.

—The Superintendent of the Chatsworth, Ill., beet sugar works, states that the entire crop of beets has been successfully manufactured into sugar yielding a fair per centage of the article, which readily sold in Chicago at fourteen cents per pound. The difficulty at Chatsworth is simply a lack of water in very dry seasons, which may jeopardize the enterprise, from inability to manufacture the product at a time when delay would cause a great loss of beets.

—The following from a correspondent of the *Country Gentleman* contains matter for thought and discussion: "An English tenant farmer, paying

a money rental half-yearly, and liable to be noticed out by a six months' notice, buys corn brought 3000 miles to fatten animals, chiefly for the sake of the manure. An American yeoman, owning his land and possessing capital to invest in other speculations, and in some instances living in first-class style, sells his hay and feeds no animals for the purpose of enriching his own property."

For the New England Farmer.

THE GARDEN IN APRIL.

Again we are brought to the commencement of busy out-door operations in the garden. Our first operation is the preparation of the hot-bed, and planting a few seeds of such plants as we desire to forward against the time of open-air culture. There is usually very little gained in hurrying seeds into the ground, except those of the most hardy varieties of plants, till May. Potatoes, peas, and one or two other varieties of similarly hardy seeds may be safely planted earlier, and a little time be gained, but for most varieties, seed planted when the soil and weather are such that germination instantly commences and goes steadily forward to maturity, gives us much more satisfactory results than when we have to wait a slow germination, and the young plants, after they reach the surface, stand, as if undecided which way to go. But if we wait till this time for all varieties, we may deprive ourselves of some that, with a little extra trouble, we might enjoy. It is possible for us to change the climate of a sufficient portion of our soil to supply a few desirable green vegetables which will afford us a very agreeable, healthful, and appetizing change, after our long season of stale vegetables and meat.

ASPARAGUS.—This fine vegetable is worth much more than the trouble it costs to produce it in abundance, in any of our gardens. Rake off the coarser part of the winter covering of manure, and fork into the soil the finer portion, using great care not to injure the crowns. Spread on a sprinkling of salt, or sprinkle the bed over with refuse brine. A portion of the bed may be forced to produce cuttings somewhat in advance of the season by setting a hot-bed frame over it and banking closely all around it, and covering with the sash. New beds may be prepared and planted out as soon as the soil can be well worked, using good strong one-year-old roots, if to be had; if not two-year-old ones. The ground cannot be made too rich, or be worked too deeply for asparagus. The smallest variety may be made to grow large, rank shoots by extra high culture on deep rich soil, and any variety grows more tender and rich with such care. Plant so as to cover the crowns not less than four inches deep. Many otherwise good beds are much less valuable than they should be on account of planting too near the surface.

BEAN-POLES AND PEA-BRUSH.—If not got together and prepared for use, it should be done now, as cut later they are liable to leave out. Don't think that anything will answer for bean-poles and pea-brush, but select them with some reference to good looks as well as durability. The writer procured a lot of young, slim white pine trees, two to three inches in diameter at the but, cut them about eight feet long and sharpened them, after trimming the branches off neatly, and some of them are good and in use now, after having been annually used a dozen years, but they were taken up in the fall and cared for till the following spring. Pea-brush may be made to do service for two or more years; but we prefer to have them made of white birch, and procured new annually.

BELTS.—The Early Bassano may be planted as soon as the soil can be well worked. The seed is slow in germinating, and will stand a considerable degree of cold while in the ground. Later sowing may bring as early plants by soaking and sprouting the seeds before planting. It is better to break open and separate the cluster of seeds, previous to planting, and then there will not be those little bunches of plants so frequently seen, as commonly planted.

CABBAGE.—Sow seeds in the hot-bed; harden off, ready to transplant, as soon as safe in the open ground, the plants wintered in cold frames.

COLD FRAMES.—These will be found quite advantageous for starting tender seedlings, after being cleared of those already in them; also for pricking plants, from the hot-bed into.

CRESS OR PEPPER GRASS.—Sow in rows six inches apart. Sprinkle the young plants with ashes to keep off insects. This makes an agreeable salad, warming and appetizing.

EGG PLANTS.—Sow the seed in the hot-bed at once. Pot off or prick out into cold frames as soon as the plants are large enough. Varieties were named in February.

HORSE RADISH.—New beds may be planted, using the crowns or pieces of roots. Make the bed where it can remain, in rich, rather moist soil, as best. Liberal manuring and good culture will be rewarded by increased size of the roots.

ONIONS.—Seed may be sown soon as the ground may be worked. Sow in rich, clean soil. Peas, potatoes, radishes, lettuce, parsnips and salsify may be planted soon as the soil can be worked well. Prepare for planting all other vegetables as soon as the season will admit, in May.

W. H. WHITE.
South Windsor, Conn., 1871.

☞ The Maine Legislature is offering such liberal inducements and making such definite arrangements for immigration of Swedes to New Sweden, Aroostook Co., that a large in-

flux is expected this year. Immigrants are to come over under charge of a commissioner, and an agent at each end of the route will manage their interests—one at Gothenburg, Sweden, and the other at New Sweden. Each male immigrant over twenty-one years of age is to be assigned a lot of 100 acres of land, which will be his at the expiration of five years, provided he has built a comfortable house there, and has cleared not less than fifteen acres of land. The Swedes are exempt from State tax until 1876.

HOW WALKING STICKS ARE MADE.

Sticks are manufactured both from large timbers of from two to six feet in girth, and from small underwood of about the thickness of a man's thumb. The timber, which is chiefly beech, is first sawed into battens of about three feet in length and as many inches in width; and from each of these battens are afterward cut two square sticks, with square heads, in opposite directions, so that the middle portion is waste wood. The corners of each stick are afterward rounded off by a planing process called "trapping," and the square head is reduced by a small saw to a curve or rectangular bend, so as to form a convenient handle. When a number of sticks are brought in this way to the exact size and pattern, they are polished with great care, are finely varnished, and packed in boxes or bundles for the market. Many sawn sticks, however, are supplied with bone and horn handles, which are fastened on with glue; and then of course there is less wood waste, as a large number of them may be cut from one batten.

A very different process takes place in the manufacture of sticks from small underwood, in which there is no sawing required. The rough unfashioned sticks, which are generally of hazel, ash, oak and thorn, are cut with a bill in the same way as kidney-bean sticks, and are brought to the factory in large bays or bundles, piled on a timber tug. There must, of course, be some little care in their selection, yet it is evident that the woodmen are not very particular on this score, for they have in general an ungainly appearance, and many are so crooked and rough, that no drover or country boy would think it worth while to polish the like of them with his knife. Having arrived at this place, however, their numerous imperfections are soon pruned away, and their ugliness converted into elegance. When sufficiently seasoned and fit for working, they are first laid to soak in wet sand, and rendered more tough and pliable; a workman then takes them one by one, and, securing them with an iron stock, bends them skillfully this way and that, so as to bring out their natural crooks, and render them at last all straight even rods. If they are not required to be knotted, they next go to the

"trapper," who puts them through a kind of circular plane, which takes off their knots, and renders them uniformly smooth and round. The most important process of all is that of giving them their elegantly-curved handles, for which purpose they are passed over to the "crooker." Every child knows that if we bend a tough stick moderately, when the pressure is discontinued it will soon fly back, more or less, to its former position; and if we bend it very much, it will break. Now the crooker professes to accomplish the miracle of bending a stick as it might be an iron wire, so that it shall neither break nor "backen." To prevent the breaking, the wood is rendered pliant by further soaking in wet sand; and a flexible band of metal is clamped down firmly to that portion of the stick that will form the outside of the curve; the top end being then fitted into a grooved iron shoulder which determines the size of the crook, the other end is brought round so as to point in the opposite direction, the metal band during this process binding with increasing tightness against the stretching fibres of the wood, so that they cannot snap or give way under the strain. The crook having been made, the next thing is to fit it, or remove from the fibres the reaction of elasticity, which would otherwise, on the cessation of the bending force, cause it to backen more or less and undo the work. In the old process of crooking by steam, as timber-bending is effected, the stick was merely left till it was cold to acquire a permanent set; but in the new process a more permanent set is given by turning the handle about briskly over a jet of gas. The sticks being now fashioned, it only remains to polish and stain or varnish them; and they sometimes scorched or burned brown, and carved with foliage, animal heads and other devices.—*Chambers's Journal*.

HOW TO MANAGE SITTING HENS.—1. Set the hen in a place where she will not be disturbed.

2. Give a large hen twelve or thirteen eggs, medium sized one ten or twelve, and a small one eight or nine.

3. Don't let the hen come out of the sitting-room until she has hatched, but keep her supplied with gravel, food and water.

4. When chicks are hatched, leave them in the nest for eight or ten hours.

5. Don't meddle with the eggs during incubation; turning them once a day, and all such foolishness, is apt to prevent the eggs from hatching.—*Southern Farmer*.

—A little Boston girl joyfully assured her mother, the other day, that she had found out where they made horses—"she had seen a man in a shop just finishing one, for he was nailing on his last foot."

Months' Department.

OUR DARLING.

Bounding like a foot-ball,
Kicking at the door;
Falling from the table-top,
Sprawling on the floor;
Smashing cups and saucers,
Splinting dolly's head;
Putting little pussy cat
Into baby's bed.
Bulking shops and houses,
Spoiling father's hat,
Hiding mother's precious keys
Underneath the mat;
Jumping on the fender,
Poking at the fire,
Dancing on his little legs—
Legs that never tire—
Making mother's heart leap
Fifty times a day;
Aping everything we do,
Every word we say,
Shouting, laughing, tumbling,
Roaring with a will,
Anywhere and everywhere,
Never, never still.
Present—bringing sunshine;
Absent—leaving night;
That's our precious darling,
That's our heart's delight.

THE MOCKING BIRD.

This Puck of the woodland wilds belongs exclusively to the South. He is brave, sociable and useful. He is a game-looking bird of quiet, gray color, with nothing about his plumage to separate him from the rough coverings of bark, and the pendant moss that hangs in such weird grandeur from the limbs of decaying trees.

Over the summer-house of the Southern garden, though occupied by visitors, the mocking-bird will perch, and curiously peer down on his human companions, as if he would divine their thoughts. He will sympathize with the sounds of human voices, and enjoys the conversation and the laughter and wrangling of children.

Under such circumstances, he will dash from limb to limb as if crazed with excitement, occasionally giving vent to his spirit in carols that are full of genius and heavenly melody; or, perhaps, inspired with some heroic idea, he will crowd into rapid measures the im-

pent resentment of the chicken hawk and the screams of the bald eagle.

And when evening sets in, and the moon rises over the charms of a Southern garden—when the night is warm, and the lettuce is up, and the door is open to catch a passing breath of air—when the flowers have gone to sleep, leaving their fragrance to literally load the air—when nature is half exhausted under this semi-tropical climate; the mocking-bird, perched upon some dead limb that protrudes beyond the rich foliage, will pour out his wonderful overture of sweet notes, inspiring all living things with pleasure and admiration.—*Appleton's Journal.*

A GOOD OLD BLANKET.

One of the gallant naval actions during the war of 1812 was between the *Enterprise* and *Boxer*, a Yankee and a British ship, off the northern coast of New England. A lady sends an account to a Portland paper of some mementos of captured British vessels, among which is an old "King George" blanket that don't seem to know how to wear out:

The *Boxer* was sold by government, and purchased by my father and uncle; but whether she was fitted for sea by them, or broken up, I do not now recollect. Among her relics I have in my possession a small cannon and cartridge-box, a chain-shot and a two-quart bottle (the last marked G. R. with a crow's foot.) I have also a very thick and large-sized woolen blanket, also marked G. R. with a crow's foot, burnt in, I think my father has told me, with powder, by what process I cannot conceive, and may be entirely wrong in my impression. This blanket has been in constant use in the family for more than fifty-five years—now covers my own bed—and seems to be good for as many more years, while it might have been used for as long a period before the naval battle between the *Boxer* and the *Enterprise* off our coast. This blanket is a significant comment upon these "shoddy" days. As some of your little readers may not understand what "G. R." means, let me say that they are the initial letters of Georgius Rex, or King George, one of the Georges being King of Great Britain at the time of the manufacture of the articles.



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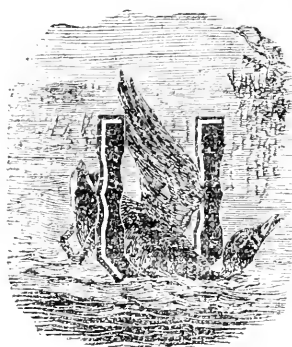
MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

MAY, AND MAY REVELRIES.

"Violets, blue violets—
Meekly around the door-stone springing,
A little rose to the lattice clinging,
Or o'er the door;
Are ever whispering some graceful thing
As the feet on the threshold are wandering
Carelessly o'er."

E. Barker Thorp.



FOR this pleasant month of May, how many fine prose articles and impressive poems have been written. No other month stirs up within us such feelings of joy as this. Not because, as a

whole, it exceeds all the others, but because it has *some days* reminding us of the joyous realizations of which Milton and Thomson, and other of the grand poets have so sweetly sung, or of the Elysian fields which nestle under the mountains on the northern shores of the Mediterranean sea, where the invalid breathes soft and dry airs, while listening to the ever restless and surging waters. Those bright days call up the descriptions by travellers of the charming Mentonian amphitheatre at the head of the gulf of Genoa, where invalids and travellers are glad to rest under the lemon and olive-clad hills of the lonely town, Mentone.

Such days are transient, it is true, but they impress every feeling heart with an undefinable sense of joy which no lapse of time can eradicate. Like the life of a good man, the month of *May* is not all sunshine and sparkling with gems, but has its clouds and storms and nipping frosts; and it is altogether more beautiful from the very contrasts which these changes afford.

A charming and instructive English writer, in speaking of the seasons, says, "Spring is with us once more, pacing the earth in all the primal pomp of her beauty, with flowers and soft airs, and the songs of birds everywhere about her, and the blue sky and the bright clouds above. But there is one thing wanting to give that completeness to her advent which belonged to it in the olden times, and without which it is like a beautiful flower without scent, or a beautiful face without a soul. The voice of man is no longer heard hailing her approach as she hastens to bless him; and his choral symphonies no longer meet and bless *her* in return—bless her by letting her behold and hear the happiness that she comes to create. The soft songs of women are no longer blended with her breath as it whispers among the new leaves; their slender feet no longer trace *her* footsteps in the fields and woods and wayside copses, or dance delighted measures round the flowery offerings that she prompted their lovers to place before them on the village green. Even the little children themselves

that have an instinct for the spring, and feel it to the very tips of their fingers, are permitted to let May come upon them without knowing from whence the impulse of happiness that they feel proceeds, or whither it tends."

This was truly said of the people in milder regions than ours, where pelting storms and untimely frosts, never succeeded a calm, bright, and beautiful May day, such as we sometimes have. To inspire us up to the pitch of enthusiasm which the old writers felt, our month of May must partake more of the character of June—but not to be like June, after all—May with us does not "pace the earth in all the primal pomp of her beauty, with flowers and soft airs everywhere." We must wait until June for this lovely garniture and life-giving airs. Then, in June, the summer has come, and the delicious and soul-stirring sensations of the advent of *Spring* cannot be realized!

There is something singularly impressive in this. We can no more call up at will, in the autumn, the feelings inspired by a balmy May-day, or in June, those awakened in a bright, nut-dropping, October morning, than the leopard can change his spots. The seasons have their influences upon our natures as well as upon the vegetable kingdom. Some temperaments are inspired and made joyous by aspects of the autumnal months, while others feel an undefinable gloom resting upon them during the fruition and decay of vegetable life about them.

Another temperament is soothed and made happy by the gloom of November, the shifting skies and moaning winds, which are full of harmony to them. The trees have laid up the promise of future fruitfulness in compact buds, carefully bestowed to spring into life when the warmth and moisture of a coming *May* shall excite them. They have performed all their duty for the season, cast their leaves back to the generous earth, and are seeking their winter repose,—only occasionally awaking from their hibernative state, when the too constant and powerful rays of the sun excite them too much.

So another temperament finds pleasure in mid-winter, when the wind roars through leafless branches, or careers over the hills, filling the air with snow which it sweeps before it into the valleys.

In the famous city of Ephesus, about the period in which St. Paul visited it, the whole month of *May* was usually consecrated to the glory of the goddess *Diana*. From the towns on the coast and in the interior, the Ionians came up with their wives and children to witness the gymnastic games and musical contests, and to enjoy the various amusements which made the days and nights of *May* one long scene of revelry.

The practices of our English ancestors were not objectionable. They assembled on the green, or in groves, erected the May-pole, crowned that and each other with garlands of flowers and evergreens, and sang and danced away the hours in merry and healthful amusements.

Our people have caught something of that innocent inspiration. But our *May* will neither afford us the flowers, nor permit us to visit the woods and groves, unless panoplied in the habiliments of winter. Boots and overcoats, mufflers and mittens, do not harmonize with fresh flowers and dancing on the "green;" the discordance destroys all sentiment, and we are obliged to honor the good taste of our ancestors by crowning our girls with hot-house flowers, and dance around them in gas-lighted halls.

FARM WORK FOR MAY.

Among the work which ought *not* to be done in the month of *May*, nor in April, is that of pruning trees.

WINTER GRAINS.—Where land was ploughed last fall and sowed to winter grain, the crops will be greatly promoted,—if the soil upon which they stand is not in high condition—by giving them a slight top-dressing of composted, fine manure, and especially by a dressing of ashes. A half dozen bushels to the acre, if no more can be spared, will be of essential benefit.

PLOUGHING.—Some farmers prefer to plough the land quite early in the spring which is intended for oats, barley or wheat, and then plough again a day or two before the seed is sown. On land which is high and dry, this practice may be a good one; but, after all, it admits of a question. Nature has a process of preparing the land for us in the spring, which can hardly be improved upon. The frost has swollen it, and then leaves it with such slight finger-touches that the particles are

left in a light and porous condition, most admirably fitted for the percolation of rain water, the admission of air and heat, and the very valuable atmospheric action which will take place in such a soil.

Now if the soil is turned over by a plough, the pressure of the mould board upon the furrow-slice, as the plough proceeds, will compact it, and leave it much heavier than it would have been if left undisturbed until nature had got through with her operation. Would it not be more economical, so far as the labor of preparation is concerned, and also be in a better condition for the crops, not to disturb the soil until it will crumble when moved and fall into a fine and porous mass? After this later ploughing, the more finely the soil is made and the more thoroughly it is mingled, the greater certainty there will be of a paying crop.

WATER COURSES.—All the water courses on the farm, whether they are carefully laid drains, open ditches or brooks, should be examined—if they were not last month—and cleared of obstructions, so as to allow all surplus water to pass readily away. Some drains may remain entirely inoperative for a year to come, perhaps, if this slight matter is not seasonably attended to.

SOWING SEEDS.—Oats do much better for being sowed early, than most other grains. Before the middle of April is not too early, if the soil is in prime condition to receive them. Barley will do well if not sown until nearly a month later. Some farmers think it does better.

TURNING TO PASTURE.—As a general thing, most persons turn their cattle to pasture too early, when there is little or no feed for them. If so, they roam gloomily over the pastures, poaching them with their feet, exposed to wind and rain, perhaps, and lose both flesh and milk, instead of gaining anything. But they should not be kept out too long. When the grass is an inch high, it is better to have it fed off than to remain longer without being cropped. If kept down to about that point through the season, there will be much more feed and of a better quality. It is then sweet and nutritious.

THE GARDEN.—Do not neglect the vegetable garden, and the women will certainly add “nor the flower garden.” Vegetables and small

fruits are not only much cheaper, but they are also more wholesome than much meat in hot weather; and they are better directly from the garden to the pot and the table than when lying a day or two after they are gathered.

Plant peas, beans, potatoes, cabbage, corn, &c., at successive times, so as to have them coming on in perfection through the entire growing season.

GRAPE VINES.—Set a few Concord or other grape vines. They are easily cultivated, and their fruit will prove acceptable and healthful to all.

SUNDRIES.—Sow a few radish seeds, and they will bring a refreshing salad, crisp, juicy, and appetizing, with your evening tea.

SAGE seeds, also, to establish roots for years to come, and supply all the sage needed for sausages or sage tea for invalids.

SUMMER SAVORY—pleasant to the eye, to smell, and to season soups.

ASPARAGUS.—Stock a bed of this with roots, if you have not one already.

LETTUCE.—Refreshing, wholesome, easily cultivated.

CAULIFLOWER.—Highly relished by many.

THICK AND THIN SEEDING.

As the season for sowing the small grains and grass seed is at hand, our attention is called to the practice about us in relation to the *quantities* of seeds which are employed in sowing an acre of ground. This varies considerably, and in some instances is widely different.

In several tables before us, recommending the amount of seed to be used per acre, we find the smallest amount of millet to be twenty-four quarts, and the largest a *bushel and a half*! In our own practice, from eight to twelve quarts,—varying as the quality of the land varies—is all we have used; and the growing crop has seemed to justify that practice. Upon turning to Flint’s “Dairy Farming,” where he speaks of forage crops for milch cows, we find he commends millet, and states if it is designed to be cut for green fodder, half a bushel of seed to the acre should be used; if to ripen seed, twelve quarts, sown broad cast, about the last of May or early in June.

Here, then, is the difference of an entire bushel to the acre. No difference in the qual-

ity of soils will justify this great disparity in the amount of seed to be used.

In seed wheat, the tables vary forty quarts; the lowest being three pecks, and the highest, eight pecks per acre. Barley, one and one-half to two and one-half bushel. Oats, two to four bushel. Rye, one to two bushel. Beets in drills, four to six pounds. Indian corn for soiling broadcast, three to four bushel. Peas in drills, one to two and one-half bushel. Carrots, from two to five pounds; the smallest amount would probably be sufficient if in drills.

In returns made to the Secretary of the Board of Agriculture, something more than one-third of the whole recommend one bushel of redtop, weighing twelve pounds; one peck of timothy, weighing eleven pounds, and five pounds of red clover for an acre. There is a pretty general agreement in the quantity of timothy and clover, with the amount just mentioned. Some of the returns, however, are as low as one-half a bushel of redtop, and as high as half a bushel of timothy.

One of the points by which we should be governed in sowing, is the weight and fineness of the seed, as a pound of one kind may contain three or four times the number of individual seeds that another kind does. The more single seeds there are in a pound or bushel, the more there will be to each square foot of the field.

Another point is the quality of the soil upon which the seeds are sown. If it is rich, a less number will be required, because the plants coming from them will be more vigorous, and require more room than they will on a poor soil.

A third reason for sowing more or less seed is in the mechanical condition of the soil. If a field has been ploughed when too wet, so that the leveling and harrowing did not break up the lumps, and give a fine, mellow tilth, that field will require more seed than one that is in good condition in this respect, because a considerable portion of the seed will not come up. Some of it will be left upon the surface, and dried up by sun and wind; but a much larger portion buried too deeply under the lumps and rot there.

If the land is weedy, *thick seeding is indispensable*. One or the other must prevail. If weeds take the precedence, there will be little of anything else. This is the difficulty in the

way of laying lands to grass in the spring without a grain crop. The weeds are so much more hardy, and so rapid in their growth, that they occupy the ground before the grass gets strong, and thus they are kept under throughout the season.

A generous seeding is, therefore, the safest course always. Most of our lands are weedy, though under a pretty high state of cultivation, so far as richness is concerned. Thin seeding may answer on soil free from weeds, but on a thin soil, infested with weeds, the seeding should be thick to bring the plants very near each other.

In the *Country Gentleman*, just come to hand, we find the following testimony of Mr. Wm. Newton, of Henrietta, N. Y. He says:

"To test the question of thick and thin seeding, a small part of the field was sown at the rate of two bushels per acre. On this piece the oats were two or three days later than on the rest of the field, and showed signs of rust, but were not materially injured by it. The result of my observations is that oats that are thickly sown are much less liable to be injured by rust; that they ripen earlier, and that the straw is brighter and of better quality, than when only a small quantity of seed is used. This liability to rust is one great objection to very thin seeding. From observation and experiment, I am led to the conclusion that the quantity of seed usually sown is not sufficient; that more might be used to advantage. * * The largest crops of oats I have ever seen raised, were sown at the rate of three and one-half bushels per acre."

MASSACHUSETTS POULTRY ASSOCIATION.

At a meeting held at the Parker House, Boston, on the 22d of March, by a number of gentlemen interested in the breeding and management of Poultry, it was voted to form an organization to be known as the "Massachusetts Poultry Association," and the following officers were elected for the ensuing year:—

President, Philander Williams, Taunton.

Vice Presidents, William J. Underwood, Belmont; Atherton F. Brown, Boston; Elbridge C. Comey, Quincy; Moses Ellis, Framingham; Henry F. Felch, Natick; Edmund Rodman, New Bedford; G. Morgan Smith, South Hadley; George B. Durfee, Fall River; C. Carroll Loring, South Boston; John B. Moore, Concord.

Corresponding Secretary, J. M. Cady, Boston.

Recording Secretary, W. B. Atkinson, Newburyport.

Auditor, Edwin N. Rice, Clinton.

Treasurer, Nathaniel Foster, Jr., Belmont.

Executive Committee, John P. Buzzell, Clinton; Jacob Graves, Reading; Mark Pitman, Salem; Wm. H. Brackett, Boston; Col. Geo. A. Mencham, Somerville; Geo. F. Champney, Taunton; Joseph K. Pierce, Holliston; Chas. E. Tuttle, Boston; Julius K. Bannister, Boston; Chas. L. Copeland, Milton.

—The *Rural New Yorker* says the most efficient remedy for the onion grub is irrigation. If it is practicable to flood the garden affected by the grubs it will almost totally annihilate them. After a copious shower of rain they often disappear.

SOW A VARIETY OF GRASS SEEDS.



EVERY many farmers in laying lands to grass sow only two kinds of seed, timothy and red top, when the seed is sown with grain in the spring. Clover seed is usually added the succeeding spring, though sometimes it is sown with the other seeds.

When the sward is turned over in the autumn, clover seed is usually sown with the grass seeds, as it has time to get established so as not to be thrown out by frosts the succeeding winter. Clover seed is not generally used with a grain crop, as it is supposed to cover the ground so closely as to obstruct the growth of the grain.

The question to be decided, is, whether or not it is best to sow a larger *variety* of seeds, or continue on in the old routine?

If we examine the turf of an old pasture that is well stocked with grasses, one that affords rich feed, and that holds good through the summer, we shall find that it contains a considerable variety of grasses,—from ten to fifteen varieties, instead of the two varieties, timothy and red top, which are commonly used. Does this indicate that the soil may contain elements which are favorable to different kinds of grasses and will produce them abundantly if their seeds are sown in it? It certainly seems so. Mr. Secretary FLINT, in his work on *Grasses and Forage Plants*, says: “I hold this proposition to be indisputable; that any soil will yield a larger and more nutritious crop if sown with several kinds of nutritious grasses, than when sown with only one or two species. Indeed it is a fact established by careful experiment, that a mixture of only two or three species of grasses and clover will produce a less amount of hay than can be obtained by sowing a larger number of species together. * * But it is true that if we sow but one kind of grass, however abundantly the seed may be scattered, or on whatever soil it may be, or under however favorable influences, only a part of the plants will flourish; vacant places will occur throughout the piece, which will be filled up after a time by grasses of an inferior quality, weeds or mosses. If a mixture made up of a larger number of kinds of seed, is used the plants

will cover the entire surface, and produce a far better quality of herbage.”

We do not cultivate *Orchard grass*, sometimes called *Rough Cock's Foot*, to half the extent which would prove profitable. The late Judge Buel said he should prefer it to almost every other kind of grass. Cows are very fond of it. It is one of the most lasting grasses we have. A field stocked with orchard grass, which we occasionally see, has been mowed, it is stated, for more than thirty years in succession, and now yields about one ton of hay per acre. As a pasture grass it affords an early bite, and as a crop for hay sowed with red clover it is of a very high order. When used for pasturage, it should be kept closely cropped. Sheep will pass over every other grass to feed upon it, otherwise it becomes coarse and harsh. It is less exhausting to the soil than rye grass or timothy. It will endure considerable shade, and as its fibrous roots extend to a long distance below the surface, it will withstand drought for a long time.

Referring for a moment to the manner in which old pastures are stocked, we find that an examination of one gave to a square foot of the surface 910 plants; 880 of these were natural grasses; thirty were clover and other plants, and twelve were distinct species.

Let us suggest to the farmer, to test a piece of land this spring with a much larger *variety* of seeds than he has usually employed, and communicate results to these columns.

ALSIKE CLOVER.

Several inquiries were made through our columns last year as to the value of the *Alsike*, or Swedish clover, *trifolium hybridum*. It is a hybrid of the ordinary red and white clovers, and while it partakes of the qualities of both, it has some peculiarities which belong to neither of them.

We have carefully observed the opinions given of this plant by those who have cultivated it, and find a general agreement on several points. That its roots are fibrous, and of unusual length, which would tend to prevent its being thrown out of the ground by frost, and give it ability to withstand drought. It makes finer and better hay, for the stalks are not so thick and woody as those of red clover. Its foliage and blossoms are more

abundant than on the red clover. The flowers are said to be very beautiful, of larger size than those of the white clover, of pinkish color, and are very fragrant.

Mr. J. B. Turner, of Jacksonville, Ill., sowed six acres, using from three to four pounds of seed to the acre with the usual amount of timothy seed. He says it came up very thick, though the drought was unparalleled in thirty years' experience in that region. It grew about half knee high by the last of September, and blossomed out all over the field within about three months of the time of sowing, and on the 8th of November furnished an abundance of fresh feed for the stock. He adds,—I am very much pleased with it indeed. I believe it is hardier, more prolific, and furnishes more feed for stock than the red or white clover, and is of a far more desirable quality for cows or hogs, and especially for horses.

The *Canada Farmer* states that the quantity of seed required per acre is five pounds when sown clear; and about half that amount when sown with timothy. It should be sown in the spring with wheat or barley, in the same manner as red clover. When allowed to ripen its seed, it cannot be out more than once in a season, as it bears its seed with the first blossoms in each year; but if grown for a hay crop, it can be cut again in the fall, and will yield a generous lot of fine hay for calves and sheep. Its rank growth on rich ground makes it liable to lodge. It is said to afford excellent pasturage for bees.

We hope that many of our readers will test this clover by sowing it this spring on various soils, and in feeding it to all kinds of stock.

Until the seed is more abundant the price will remain high; but the small quantity required per acre will enable many persons to give it a fair trial.

PROPER DEPTH OF SEEDS.

A very considerable proportion of the farmers of New England do not raise the grass seeds which they annually sow. With it they purchase a variety of foul seeds which not only cost much money, but are stocking the land with hardy and worthless plants. In addition to these losses, there is another question which has been too little regarded, viz: that of ascertaining the depth at which seeds will most readily and certainly germinate.

In sowing grass seed, the common practice is to plough and harrow the land, level a little with spade and hoe, sow the grass seed with grain and harrow again. This last operation is usually performed with a harrow whose teeth are from five to eight or ten inches in length. Each tooth opens a drill, as the implement passes along, to the depth of half its entire length, at least. The teeth are arranged in gangs, so that the whole surface is moved. Is it not probable, then, that very many of the seeds drop into these drills, and are covered so deeply as to prevent their coming up? We have no doubt of it; nor any doubt that the farmer meets with a serious loss in this respect.

It would be an easy matter for farmers to experiment for themselves, by placing seeds in small pots, cups or saucers, and place them on the window sill, or in any warm position where the seeds would have a favorable place for sprouting. Scatter some seeds upon the surface, and leave them there. Then place others at various depths below the surface by pressing a pointed stick, that is marked with inches and parts of inches, into the soil. Make a record of time where sowed, depth, and time of appearance of plant, and the operation will give a fair idea of the depth at which various seeds should be planted, in order to secure a quick and healthy germination.

Various experiments are on record in relation to this matter, one of which was with Indian corn. That which was planted at the depth of

No. 1.	1	inch, came up in 8½ days.
" 2.	1½	" " 9½ "
" 3.	2	" " 10 "
" 4.	2½	" " 11½ "
" 5.	3	" " 12 "
" 6.	3½	" " 13 "
" 7.	4	" " 13½ "
" 8.	4½	" " — "
" 9.	5	" " — "
" 10.	5½	" " — "
" 11.	6	" " 17½ "

Nos. 8, 9, 11, were dug up after twenty-two days, and it was found that No. 8 had an inch more to grow to reach the surface of the earth. Nos. 9 and 11 had just sprouted, but were short and 3 inches below the surface. No. 10 came up in seventeen and one-half days, but the tender leaf remained only six days green, and then withered.

This experiment shows very clearly the advantage of shallow planting, when the soil is in good condition; that is, not too loose, nor

too solid, but in a fine, mellow tilth, where sun, air and moisture can do their work.

It appears that the more shallow the seed was covered with earth, the more rapidly the sprout made its appearance, and the stronger afterward was the stalk. The deeper the seed lay, the longer it remained before it came to the surface.

PETRI, an authority with which we are not much acquainted, but who seems to have given the subject careful attention, gives an experiment made on rye, with the following results. The first column shows the depth at which the seed was placed; the second the number of days that elapsed before it appeared above ground; the third, the number of plants that came up.

Depth.	Appeared.	No. of Plants.
$\frac{1}{2}$ inch	11 days	7 plants.
1 "	12 "	all "
2 "	18 "	7 "
3 "	20 "	6-8 "
4 "	21 "	4-8 "
5 "	22 "	3-8 "
6 "	23 "	1-8 "

The root stalk, Mr. Petri says, forms itself always next below the surface of the ground, and if we place the grain deep, it must first put out its sprouts to the surface and form its side branches in a near connection with the air. We never find that sucker roots are ranged from below to above, but the contrary.

It ought to be remembered, in this connection, that the *finer the soil is made* the more certainty there is that seeds will come up quickly and strong.

ANALYSIS OF SOILS AND MANURES.

Some years ago farmers were encouraged to expect great practical benefits from the teachings of science based on analyses of farm soils. In 1851 the Ohio Board of Agriculture employed Mr. David A. Wells "to examine, analyze and report on the nature and composition of the soils of the State." The Board, Mr. Wells, and the public generally were sadly disappointed by the result of his labors. After spending the summer in conducting analyses and comparisons, Mr. Wells made this confession:—

"We find but little difference in the amount and value of the mineral constituents of the Ohio and the Hampden County, Mass., soils; if anything, the advantage is on the side of Massachusetts soils."

And yet he tested some of the richest soil in Ohio,—that of the Scioto Valley—soil that had then been cultivated fifty years, "and now," he says, "with the most ordinary culture, yields on an average, one year with another, eighty bushels of corn to the acre."

A few years since, Dr. Jas. R. Nichols analyzed some ordinary barn yard manure. He assumed that

A cord of such manure would weigh	3060 lbs.
The pure water therein	2456 lbs.
The pure sand	138 "
	2594 lbs.

Deducting these worthless substances and there remains only	406 lbs.
Deducting the carbonaceous matter, no better than peat, straw, or chaff	332 lbs.
	74 lbs.

"and we have left," he says, "only seventy-four pounds of active fertilizing material which has a money value." These fertilizing materials, all that he found in a cord of manure, he proceeds to show may be purchased in the market for three dollars and thirty-five cents. And yet practical farmers continue to use manure in the vicinity of Boston that costs, including hauling, ten, twelve and more dollars per cord, instead of manufacturing it according to his formula, which is as follows:—

Crude nitrate of soda or sulphate of ammonia . . .	\$2.60
One and a half bushel of good wood ashes	35
15 lbs. common salt, 10 lbs. of bone dust,	
3 lbs. of gypsum	50
Peat or muck, say,	10

Dr. Nichols then says:—

By substituting nitrate of potassa, or saltpetre, for soda, the compost is greatly improved, while its cost is enhanced. If the salts are dissolved in water,—those that are soluble,—and the bone in ley, and good muck is employed, a compost is formed very nearly as valuable as seasoned excrement. Very nearly, we have said—why is it not of equal value?

We have reason to believe it is owing to a minuteness of the subdivision of atoms, which we can neither produce nor comprehend,—a degree of comminution which sets at defiance all mechanical and chemical manipulation. Besides this, there is, however, a peculiar condition arising from, or communicated by, the contact of vital forces, which science is incapable of explaining.

In short, the same salts and organic matter as found in the dung-heap, have a higher money value, and seem to exert a more specific influence upon plants than when presented in artificial mixtures.

If, then, there is a value or "condition" in a cord of barn-yard manure, "which," as the Dr. confesses, "science is incapable of explaining," may there not be some similar condition, property or combination in special manures that analysis is incapable of explaining or showing?

The proprietors of the "Grafton Mineral Fertilizer" published an analysis of the ore from which the fertilizer is made. Assuming this analysis to be correct, Dr. Nichols has expressed the opinion that the Grafton Mineral Fertilizer is worthless, or nearly so. As will be seen by reference to our advertising columns, a large number of farmers in New Hampshire who have carefully experimented with it during the past two years say that they have found it a valuable fertilizer. Personally we know nothing of its merits or demerits, but on the recommendations of so many farmers residing in its "own country," where a prophet is proverbially

without honor, we propose to try this "fertilizer" on a small this season.

Specimens of the rock taken fresh from the diggings, and also of that which has been acted upon by the air have been left at this office. An examination of them would hardly suggest to a practical farmer the idea of manure. Neither, probably, would a specimen of native gypsum. Nor would a hod of anthracite suggest the idea of newwood to one who had never heard of "burning stones."

"THE FARMERS' RING."

Farmers have so long occupied the back ground in the legislation of the country that the following paragraph from the *Prairie Farmer* is interesting at least for the novelty of the thing:—

In the Springfield correspondence of the *Chicago Times*, and in the editorial columns of that paper, it is alleged that a "Farmers' Ring," has been organized in our State Legislature, (Illinois,) which professes to rather run things in its own way, and, especially, in opposition to the lawyers, over which class the farmers have a majority of one or two.

While admitting that there is a grain of truth in this statement, the *Farmer* says it is not strictly in accordance with the facts. The agricultural members of the legislature of Illinois have formed a club, at which, among other subjects, the proposed laws which affect the industrial classes of the State are discussed. Several of the members of this club are lawyers, who meet and vote with the farmers. While this "ring of farmers" are endeavoring to secure their own rights, they are not in opposition to the lawyers or any other class. Though we have a hearty dislike for most of the rings which attempt to influence legislation, we wish there might be such a ring in the legislature of every State as that alluded to by the *Chicago Times*—a "Farmers' Ring." Whether as a ring or otherwise, we believe that farmers are to influence the legislation of the country in the future more than they have done in the past.

EDUCATION OF FARMERS.

A very able article on the importance of education to farmers appeared as a communication in a late number of the *Lexington, Ky., Farmers' Home Journal*. The writer claims for Henry Clay the credit of laying the foundation for a grant of land by Congress to establish agricultural colleges, and gives the following extract of a letter written by Mr. Clay, and now in the possession of the correspondent of the *Home Journal*. Mr. Clay said:—

"My name will be remembered with more pleasure and gratitude by those that know me, for my devotion to agriculture and mechanic arts, than all my long life spent in politics. We must have colleges and schools in connection with the arts and sciences, the army, the navy, the clergy and the bar. *But the production of our daily bread, our very existence, is too common-place and wholly neglected by our law-makers.*

Let Congress donate lands to establish Agricultural Colleges in all the States. Many of our law-

makers are professional men, mostly residing in towns and cities, and have but little sympathy with the farming classes, hence, the danger of having no check from the honest, hard working agriculturists that communes every day with his Maker. *Educate educate the farmer.* No amount of reading alone can make a man a farmer. He must have long experience, accompanied by keen observation. But on the other hand, no man can be thoroughly an intelligent farmer who depends solely upon his own practice, and neglects to avail himself of the knowledge of others, communicated orally or by the press. It is my belief, that no farmer of observation and thought, can read a good agricultural paper, regularly, without deriving from it more benefit than many times its cost, and wherever a family is growing up around him, it would be wisdom to subscribe for several."

The date of this letter is not given. Mr. Clay died in 1852. The act for the grant of land for the establishment of agricultural colleges was passed in 1862.

THE COWS ARE COMING.

BY ALICE ROBINS.

The cows are coming, Jessie, dear, make haste and see the sight;
There are twenty milky beauties to be housed and fed to-night.
The first one with snow-white horns is just as old as May;
She and my pet first saw the light the same soft summer day.

A tender creature was she, so weak, and cold, and thin!
John said she was not fit to raise. I said it was a sin.
To cast her off, for May had's sake. John laughed, and asked me whether
I thought it best, upon the whole, to rear two calves together.

But she was spared and so was May. It sometimes seems to me,
In Starbright's soft and gentle eyes, May's pleading glance I see.
I love the creature—you may smile—perhaps my fancy moek;
She's the fairest of the herd, as May's the sweetest of the flock.

There's May, her arms round Starbright's neck; the girl is nine to-day;
A frolicsome and genial thing at study or at play;
The darling in our failing years, the spring our autumn set,
A fair white jewel blazing in our faded coronet.

But see, John lets the bars down; in clover deep they stand
With glossy flanks, and backs as straight as yonder table-land;
The fragrance of their breath pours in like ambergris and myrrh;
They're just the neatest cows to milk—John says they never stir.

They know his tone—'tis seldom loud; they know his touch—'tis kind.
"John has a way," the neighbors say, to make dumb creatures mind;
Perhaps—I only know that I, through all these blessed years,
Have never seen the moment when his voice has brought me tears.

—Small pieces of non-resinous wood may be perfectly seasoned by boiling four or five hours. The boiling seems to take the sap out of the wood, which shrinks nearly one-tenth in the process.

EXTRACTS AND REPLIES.

EGG PLANT.

Among the things mentioned by Mr. Quinn on which "Money in the Garden" is realized by those who have a market for vegetables, is the Egg Plant. It is not raised to a great extent, as the demand is limited. He says it is a tender annual, must be



started early in the hot-bed, and is more difficult to start in the spring than any kind of vegetable he grows. There are several varieties, but he prefers the New York Improved. He says that near New York the plants may be set in the open air about the 20th of May. Here they should be transplanted a week or more later. Mr. Quinn says:—

They require a deep, rich soil, well worked. We set the plants three feet apart each way, and sprinkle some superphosphate or some finely-ground bone immediately around the roots at the time of planting. Each plant is taken from the bed with a square of earth around the roots. The afternoon before transplanting, the plants are copiously watered, so that the soil will adhere to the roots. Then, with a long-bladed knife to cut through on either side, each plant is removed without disturbing the roots. The plants are placed on a wheelbarrow, and taken where they are to be set out.

It is important to use all this care, for, unless all the conditions are just right, Egg Plants are very tardy in starting, and with the market-gardener this is a matter of dollars and cents. When they first come into market they usually bring two dollars per dozen; later, the price goes down to seventy-five cents or one dollar a dozen.

The ground should be hoed frequently, kept loose and free from weeds. Plants that grow to full size will average from seven to nine eggs to a plant, of the "New York Improved." Two or three dozen plants will give an abundance of eggs for a family of six or eight persons.

PLOUGHING UNDER MANURE.

Your correspondent C. of Wilmington, Vt., tries to persuade people to put their manure on top, and I try to have them plough it under. But I do not hold to getting it very deep. C. thinks nature has provided a way for enriching the soil. So it has, but it is so very slow a way that we farmers dislike to wait for it. He admits that it takes ages to do it. I think there can be improvements made on an-

ture's way of enriching the soil. Nature has no other way but to leave it on top. Does any one suppose it would not be better covered up?

It seems that C. puts on three dressings of manure during the three years that he has his land up, but he does not tell us how much he applies to the acre at each time. He must put on a light dressing, or his land is poor, or his manure is poor, or he loses a share of its value by not ploughing it under. I wish Mr. C. could see the crops I get from one dressing of manure of from twenty-five to thirty loads to the acre, put on to greensward and turned under, once in five or seven years, then see if he would say ploughing under manure is a failure. I would ask him if he has ever tried turning under manure thoroughly, for I mistrust that he is so afraid of losing it that he has never tested that mode. I don't know but they have land in Wilmington on which two loads of manure on top is as good as three turned under, but we have not in Woodstock.

We will take, for example, a piece of worn out land, not so badly, however, but that it will grow a small crop to start with, and sow clover seed or some other seed, and as it gets grown, plough it under and sow again and turn that under. Now how long will it take to make a rich piece of land of it? Then take another piece of similar land and let nature have its course and the vegetable matter decay on the surface. Does any one think it would be as good? Would it ever get as rich? Some may say the ploughing enriches it. Very likely it may a trifle, but not much. I wish people were not so afraid of signing their whole names to what they write.

C. F. LINCOLN.

Woodstock, Vt., March 13, 1871.

ORCHARD GRASS AND ALSIKE CLOVER.

I wish some of your readers that can speak from actual knowledge, will tell me through your paper whether orchard grass and alsike clover are the best for soiling through the summer? Where can the clover be obtained? Where winter rye is used for the above purpose what time in the fall is the best for sowing it?

A. R. B.

Elmore, Vt., March 24, 1871.

REMARKS.—Both of the grasses referred to are new to most of the farmers of New England. In other parts of this page our correspondent will find something in relation to both alsike clover and orchard grass, and we fully endorse the request that those who can will speak from actual knowledge for the benefit of others as well as of A. R. B.

MILK COWS AS LONG AS THEY GIVE MILK.

MR. PRESIDENT:—How will a young farmer know what to do about milking his cows when old farmers disagree? From my experience of forty years as a farmer, I must differ from Mr. D. Kimball, in FARMER of March 18. I have in several instances injured cows by trying to dry them two or three months before calving. Bunches have come in their bags, and the milk became curdy and thick, apparently the same as in cases of garget. To save cows from being spoiled, I milk them twice a day clean and dry as long as the milk comes into their bags, even to the time of their calving.

As to Mr. Kimball's neighbor's cow being spoiled by milking too long, I think it was because she was not milked enough. From my observation I think many good cows and heifers are injured and sometimes spoiled by not milking them before they calve.

I have one cow now in my barn, fifteen years old this spring, that I have owned eleven years. She

has given milk the most of the time since I have had her. She has never been sick a day, nor gargety except once when I tried to dry her two months before her calving; nor does she have small calves. I have a four-year-old cow, one of her calves, that girths over six feet, and a steer calf brought up on one-half of her milk, that will be one year old the 28th of this month, and kept since he was weaned same as I keep the rest of my stock, that measures almost five feet.

Now, in conclusion, my advice to "A Young Farmer," to an old one, and to every body else that keeps cows, would be to take good care of them summer and winter, with plenty of good nourishing food, well sheltered from the storms and cold, and be sure they are milked regularly and dry, as long as they have milk in their bags, whether it is up to the time of their calving or not. The hammer falls!

JOHN L. JONES

Ripley, Me., March 21, 1871.

P. S.—I wish you could fill another page of your paper with just such reading matter as the first is filled with.

J. L. J.

REMARKS.—Is the motion in the postscript seconded? Are you ready for the question? As many of the members of the Club as think they can furnish enough of "just such reading matter" to fill another page, will say, aye.

RAISING CUCUMBERS FOR PICKLES.

Having about one acre of land that is well adapted to the culture of cucumbers, I will inquire of you or some of your correspondents, if there is a ready market for them when properly prepared or pickled? If so, what are they worth a barrel? What kind of barrels are the best to keep them in, and what is the best mode of pickling them? Will they command enough better price in market by being put into vinegar, to pay the expense of preparing them that way, or is it better to put them down in salt? Not knowing how to properly prepare them either way, and wishing to try the experiment one season, I hope that some one who has had experience in that business will inform, through your valuable paper, which way is the best; and give the full particulars how to prepare them in the most successful manner.

S. D. GREENLEAF.

Starks, Me., March 27, 1871.

REMARKS.—This is a branch of Market Gardening; a part of a trade which requires an apprenticeship as much as watchmaking or any of the mechanic arts. Cucumbers for pickles are raised to a large extent in the vicinity of Boston. We are told that a single pickle establishment in Boston has 175 acres planted for them every year, and that they also buy of others. A West Cambridge gardener says that not less than five cords of manure should be allowed for an acre of cucumbers. The land must be in good condition and not liable to suffer from drought. The hills are usually some five to six feet apart. The seeds are planted from the middle of June till the middle of July. The striped bugs are fought with plaster, powdered bone, &c. It is recommended to put seeds for six or eight plants in a hill, to be thinned to three or four when well established.

We are indebted to W. K. Lewis, 93 Broad St., Boston, for some information which may be of use to Mr. Greenleaf. The Short Prickly, Early Cluster and Early Frame varieties are recommended. As

near four inches in length as possible is the desirable size for pickling. They should be gathered daily, clearing the vines of everything large enough. Leave half an inch of the stem on the cucumbers and be careful not to bruise them. Have an open cask of strong brine, and as fast as the cucumbers are gathered put them into the brine, and keep them constantly covered by the brine. After remaining in this brine some time, say till the pickling season is over, it must be thrown away and the cucumbers be put into a new clean, strong brine of rock salt. Good liquor or provision barrels are used. If the whole process is performed in a workmanlike manner the cucumbers will keep till the next spring or summer when better prices are often obtained than in the fall or winter. Most pickle dealers prefer to buy them in this condition, as different men have different ways of preparing them for the table.

But if you have a market for pickles you may prepare them yourself. As we have already remarked, different individuals have different ways of doing this. The following has been recommended for family use:—Soak the cucumbers five or six days, drain them and put them in a jar with the following pickle: to one gallon of vinegar add three pounds of sugar, two or three onions, a tea-cupful of allspice, half a cup of cloves, a pod or two of red pepper; boil all and pour over the pickles hot. The ladies of your own and neighboring families will help you to other receipts for pickling the cucumbers.

The salted cucumbers are now worth twenty-five cents a gallon,—usually at this season from seventeen to twenty cents a gallon. The drought last season cut short the crop and prices are unusually high. Hence it is probable that they may be raised this year in sufficient quantities to reduce the price to a low point.

EARLY POTATOES.

Last spring I got the leading varieties of early potatoes including King of the Earlies, Early Rose, Early Snow Ball, Early Mohawk and other varieties intending to fairly test them. But it so happened that I did not get the King of the Earlies until several days after the others were planted. I could scarcely perceive any difference in the Early Rose, Early Snow Ball and Early Mohawk. The King of the Earlies which was not planted until five days later, ripened earlier than either, although the King the Earlies were planted on ground that was not so dry as the other varieties. The largest yield of the early varieties was from the Early Rose. The largest yield that I got from any variety was from the Harrison, closely followed by the Peerless or No. 6. I intend to test them on a more extended scale this season and will inform you of the result.

Which is the most valuable as an absorbent (the cost of obtaining being the same) charcoal dust or saw-dust? What is the most valuable variety of cabbage to raise for market? What variety of onion is the best for a general crop?

H. B.

Hollis Centre, Me., March 17, 1871.

REMARKS.—Simply as an absorbent saw-dust will be much the cleanest, but the charcoal dust

the most valuable as a material in compost. Our garden correspondent, recommends for early cabbages, Jersey Wakefield, Early and Large York, Early Ox-heart, Winningstadt, and Early Flat Dutch; for later, Marblehead Mammoth, Stone Mason, Common Ball, Flat Dutch, Green Globe, Savoy. Of onions he names Weathersfield Red, Danvers Yellow, White Portugal and Potato.

WHO HAS PEACH AND CHERRY TREES FOR SALE?

Do you know of any one that has cherry and peach trees for sale that are grown in this State? I should like to buy some this spring. If any one has trees I wish they would advertise in the FARMER, and then we should know where to go for them. C. R.

Lexington, Mass., April, 1871.

BEST EARLY CORN.

I have raised corn for over forty years, and think the Scandinavian corn that I got of A. M. Everts, five years ago, is the earliest and best kind I ever raised. It ears well and has all been sound and well filled over the ends of ears. The yield has been large. In 1870 I picked my seed in seventy-nine days from planting. WM. NOYES.

Salisbury, Vt., March 18, 1871.

WATERLESS PRAIRIES.—String Prairie in Green county, Ill., is well adapted to corn raising and cattle feeding, but in dry seasons is much troubled for water, though wells have been sunk 100 feet. It was generally supposed that water would be reached by boring not over 600 feet. A gentleman near Carrolton, Mr. Geo. L. Burras, obtained a steam engine and the necessary implements for an artesian well, and sunk a shaft 370 feet, when the drill was broken. A second well was started near by and after going down 1004 feet, the work was abandoned. The materials passed through were, as stated by a correspondent of the *Prairie Farmer*, as follows:—soil and clay 47 feet; shale, 334 feet; sand rock, 117 feet; lime rock, 506 feet. No statement of the expense of this experiment, which extended with several vacations from November, 1867, to January, 1871, are given.

MAPLE SUGAR.—On account of there being so little snow on the ground, many predicted a small run of maple sap this season. We are glad however to learn that the sugar harvest has been abundant in all parts of New England. Our friend J. L. Goldsmith of Water Village, N. H., informs us that in his school district, No. 5, in the town of Ossipee, twenty-eight of the thirty families included in its limits have made as much as nine thousand pounds of maple sugar this season. In addition to a supply for his own family, Mr. Goldsmith has sold one hundred dollars worth, mostly in Portsmouth; for some of the earliest of which in nice cakes he realized twenty-five cents a pound.

—The *Elgin Gazette* says that the Illinois Condensing Company ship 100,000 cans of condensed milk every month from Elgin to New York City.

SPRING.—AN INVOCATION.

BY W. BRAILSFORD.

Up in the hawthorn in the dale
The blackbird tells his lovely tale,
With voice all blithe and free;
Bright sunshine on the willows gleams,
The perch moves softly in the streams—
Spring! Spring! we call for thee.

The torpid bee, with drooping wing,
Would fain pursue his ministering
In orchard crofts and bowers;
But ah! he waits thy cheering smile,
Whose truth would all his fears beguile,
And yield him pleasant flowers.

The violet half opes its eye,
As if it feared some fate was nigh
To end its early day;
The primrose leaves the mossy beds,
And wavering every petal spreads,
With perfume for love's May.

The snow-flakes melt, the ice is gone,
Only the winds sound drear and lone,
Life trembles in the reed;
Only the winds in forest trees
Awake sad echoes from the leas,
And chill the growing mead.

Only the winds, they seem to stay,
As if their part were meant alway
For recklessness and doom;
Come, fairest Spring, come bid them cease,
And give the slumbrous earth release
From Winter's freezing gloom.

We call thee from those regions fair,
Where all thy sweet handmaidens are,
Love sighs where suitors weep.
Hark! hark! the notes of Time's old bells,
Would charm thee with their wonted spells,
So waken from thy sleep.

STEAM CULTIVATION IN ENGLAND.

Prof. Cook, of the New Jersey State Agricultural College, furnishes the *Country Gentleman* a highly interesting account of steam cultivation as seen by him last summer in England. The implement used was a triangular iron cultivator with nine teeth, the outer ones being seven feet apart. In mellow ground the teeth would penetrate about 15 inches. This one was working on very hard soil, never ploughed more than four or five inches deep, yet it was breaking it up to the depth of 10 or 12 inches at the rate of 20 acres a day.

Two locomotives of 10-horse power were used, one at each side of the field, which was perhaps a quarter of a mile across. A wire rope extended from one to the other. The engines advanced the width of the cultivator each time it crossed the field. It was worked at the rate of five miles an hour.

One man rode on the cultivator, and could steer it so as to pass around obstructions. Two men were on each engine and a sixth with horse and cart was engaged in drawing water for the boilers.

The work was done by contract, the farmer paying 9 English shillings (say \$2.25) per acre. This in not much cheaper than the work could be done with horses, but it was better done, and could be rapidly done just

when wanted. The same men had cultivated 1200 acres on the same farm the year previous. The owner of the apparatus owned 10 or 12 sets, all at work within 20 miles. The cost of the engines, ploughs, cultivators, &c., is at least £1500 (say \$7500).

A single engine is used frequently, with a rope extending twice across the field, with anchors on the opposite side.—*Western Farmer.*

For the New England Farmer.

THE HAY CROP.

Poor Prospect.

What are we going to do for hay the coming year? is a question one hears discussed quite anxiously wherever the drought of last year prevailed.

The grass seed that was put in with spring grain is making a small show at this time, except on exceptionally favorable fields. On high dry land it is nearly a total failure, and the plants are thin on most of the newly seeded ground.

On low fields the best kinds of grasses are dead and only the poorer sorts left, and on thousands of acres in this part of New England the white grub, (the larva of the May-bug,) has entirely killed every thing but sorrel and a few other coarse weeds. The turf may be rolled up like a mat, by the acre.

Pastures are also injured by the same causes and the prospect for summer feed is not at all promising.

If this state of things existed only on an eighth or a tenth part of our farms it would be nothing very serious, for that amount could be ploughed and planted with the usual hoed crops and again reseeded, but where the damage is from one-fourth to nearly the whole, it becomes a very serious matter.

Curing Fodder Corn.

Dairy farmers will need to make some extra effort this season in order to provide sufficient forage for their stock. Having this subject on my mind I called the other day on Mr. Rensselaer Jillson, at his farm near Woonsocket, R. I. I had heard of his large fields of fodder corn, and something of his method of curing and using the fodder, but I wished to learn more of the details of his management.

Mr. Jillson, like many others, believes in corn fodder, and has raised it several years for fall feeding, getting it ready as early as possible and feeding it green till frost comes. The last two or three years he has been trying to learn how best to cure it for feeding after frosty weather prevents its being fed green. He is satisfied that it is neither practicable nor profitable to try to house it in any large quantities. It grows so large that the stalks hold moisture enough to cause violent heating if packed in buildings.

If it could be kept standing on end, under cover it would cure perfectly, but if it begins to lean over and pack down it will heat and spoil. And then he raised such immense quantities on his farm that housing it is with him entirely impracticable. He plants the largest Southern white variety, because it will produce so much more than any other kind. Thinks sweet corn is liked by the cows better than the Southern, but he can not grow enough of it on an acre to suit his ideas of profit. Always plants in drills, using about three bushels of seed per acre. Does most of the work of hoeing with a horse hoe. Plants at intervals of about ten days, that the harvesting may not all come at once.

As soon as the corn is fit to feed, it takes the place of pasture grass and hay for his cows,—giving them all they will eat each day.

When the first planting is in blossom and before the leaves begin to get much dry, it is cut and laid on the ground to wilt for a few days, if the weather is favorable. If a storm is expected, it is bound in bundles as large as a man can easily handle and immediately stooked. He tried many ways of stooking, but with indifferent success, till he learned to make large stooks and have them stand alone in the field till wanted at the barn. He now makes his stooks about ten feet in diameter, setting the corn quite straight up, and uses no bands to confine it but depends only on its own weight and size to keep it upright.

When the second planting is ready, it is treated in the same manner, and so on through the fall till there is danger of frosts, when all that remains is cut down and stooked.

After this time, it is drawn to the barn as wanted as long as it lasts. This year he had it in good condition till December or January.

He thinks it may be kept in very good condition till March. The outside of the stooks gets considerably weather beaten, but the inside keeps bright and sweet, and his cattle waste but very little of it. They have in winter one feeding of it per day, which is one-third of their food, exclusive of grain. His cows show that they are well fed and the prices he obtains for his milk, as well as the neatness of everything about the stables, indicates that he does not believe in neglecting the comfort or cleanliness of his animals.

Like other bold experimenters, he has sometimes made costly mistakes, but his system of growing and curing cornfodder for winter use is being adopted by his neighbors; and this season many farmers in this section will try to benefit themselves and their stock by following his example.

It is not claimed that green cornfodder is better food for cows than green grass; but in the absence of grass it is claimed that more good food can be obtained from an acre of land in corn, than from any other known crop, with the same expense for manure and labor.

And this year, with such a poor prospect for hay, it looks as if it would be a good time to give cornfodder both as a summer and winter feed, a pretty extensive trial.

Cultivation of Fodder Corn.

If the ground is thoroughly tilled in the spring, the cost of planting and hoeing need not be very great. The first plantings may need hand hoeing, but the later plantings will hardly be benefited by it if the horse hoe or cultivator is judiciously used.

I use a Holbrook's Horse Hoe middle tooth to open the rows and after sowing the corn by hand, cover it with the outside teeth of the horse hoe, with the wings set so as to throw just dirt enough over the corn to cover it all, or I go across the furrow with a light bush, which will do the work just as well. In large fields the bush is best; in small lots the horse hoe works better. As soon as the corn is up, it should be worked out with a horse hoe or suitable cultivator and the land made light and the weeds killed between the rows. This should be repeated every week till the corn is too large to cultivate, after which it will take care of itself and the weeds too. Last year Mr. Jillson weighed several loads of his corn and found that on one field of five acres he was getting on the heaviest part of it about forty tons per acre, and judges it will shrink from 75 to 80 per cent. by being stooked for winter use, which allows from eight to ten tons per acre of dry fodder. It never gets as dry or light as hay that is cured in summer. The stalks contain some juice and the cattle probably like it better than if it were made entirely dry and crisp.

Orchard Grass.

My late recommendation of orchard grass brings many inquiries from readers of the FARMER. One gentleman from New Hampshire asks if it will make a crop to cut the coming haying season, if sown this spring? He says he has a five acre lot that was in corn last year, which he had intended to sow to oats for winter fodder, for cows, but thinks he might sow orchard grass instead, if he can get a crop this year; says a part of the land will not be fit to plough before the last of April, and asks if that will be early enough for the grass seed.

Season and Method of Seeding.

The belief seems to be very common among farmers that grass seed sowed in the spring will not produce a crop of hay the first year. The usual practice is to sow some kind of grain with the grass seed. The grain comes up first, grows faster and taller than the grass, and gives it little chance to show what it might do if sowed alone.

Carrots, beets and parsnips would hardly make a crop the first season, if treated in the same way grass is treated when sown with stronger growing plants, like oats, barley or

wheat, or if allowed to be overrun with coarse, rank weeds.

I have known a few farmers to try grass in the spring without a grain crop who have failed, because their land was so foul with weeds. They said they would never try it again, because if they did not sow grain they would only get a crop of weeds. Some very good farmers never sow grass seed in the spring, but take off a crop of oats or barley and then plough and seed with grass alone. In this way they get one good crop in the season, and the grass is not apt to be injured very much by weeds, when sowed in the fall. The objection to this practice is the extra labor of ploughing, harrowing, bushing, picking stones and rolling the land twice a year instead of once. However, this is better than to sow grain and grass seed together and lose the grass seed. The loss of grass seed sown last spring throughout the United States was immense and will be felt by all classes for several years. All kinds of grass seed are very high this spring, and every precaution should be used not to have it lost or wasted by wrong management.

Seeding without Grain.

It was the high price of spring grain a few years ago that induced me to sow grass alone on a part of a field, instead of mixing it with oats. The results were so satisfactory that I have seldom put in any grain with grass seed since. And whenever I have done so I have been more and more convinced that the practice is a bad one on my farm.

With me the grass crop is of the first importance. Some farmers plough up their land in order to raise corn or potatoes or some other hoed crop. Then they seed it down for a crop of oats or barley; and if the hoed crops, and the grain leave any strength in the land, they get a few crops of grass.

With me grass is of such importance that I cannot afford to raise any grain, but plough and work a field for the one purpose of making it bear more hay. If I plant corn, it is for the fodder; and I grow as much fodder to the acre as possible. If I sow oats, they are cut green, and if I sow grass, I give it the whole land.

From many experiments I am led to believe the early fall is the best and most natural season for sowing all the grasses excepting perhaps clover, and I have been very successful with that when sowed as early as August. If it cannot be put in till later than that time I would defer till spring.

An old Bog Meadow.

I have a field of three acres now up, that was in mowing last year, cutting two very fair crops. It was ploughed last fall with a swivel plough, all turned one way and all well turned over from seven to eight inches deep. It was then thoroughly worked down with a Shares harrow, at least four times over, and

heavily weighted the last time; then a coat of stable manure was well worked in.

The field was formerly a bog meadow, and the hay was carried on shore on hay-poles. It is now thoroughly drained, and can be worked as early in the spring as any part of the farm. This spring I shall put on a cultivator and stir it up about four inches deep; then level it off with harrow and bush and sow it with two bushels of orchard grass and eight pounds of northern clover per acre, and roll it down smooth. The season now bids fair to be early with us, and I expect to get it all finished before the tenth of April. Judging from crops of past years, I shall expect to have a good crop of leafy hay to cut by the tenth to the fifteenth of July and another in September.

Loss of Timothy.

The last time it was sowed in the spring, the seed used was principally timothy. It was headed out and ready to cut the third day of July, and produced a very good crop; but the succeeding dry weather killed nearly all the timothy, and the subsequent crops have been clover and orchard grass. I do not like to sow timothy in the spring, because I have lost so much at the first cutting. If sown in the fall it spreads out over the ground and makes short jointed stems; but when sown in the spring, on good land, with neither grain nor weeds to keep it down, it runs up tall, has long joints, and does not spread out from the bottom till after it heads out. Then the mowing machine cuts it off close to the ground, and if the weather is hot and dry it has a poor chance for life.

Growth of Orchard Grass.

Orchard grass does not incline to head out the first year, but grows leaves that make the softest and best of hay for milch cows or young stock. The first crop should be cut as soon as it begins to lie down or look gray. At the second cutting the clover will have made stems, and perhaps blossoms, and add much weight and virtue to the crop of hay.

After all, I do not like to advise others to make very great changes from their usual course of farming, except on a small scale. I know what my success in seeding grass alone in spring has been, and I have so much confidence in it, that I shall continue the practice wherever I wish to put clover, redtop or orchard grass. I am sure I get more value of fodder the first year than if I sowed oats; and I am more sure of a grass crop the succeeding years.

A. W. CHEEVER.

Sheldonville, Mass., March 26, 1871.

A GREAT HORSE DAY.

The Lexington, Ky., *Farmer's Home Journal* says that ever since that place was made the county seat, the April court day has been

observed as an annual horse show, which has become of more importance to farmers and stock breeders of that county than any other public day, not excepting even Christmas or the Fourth of July, because of the absorbing and universal interest felt in the event it brings to pass. The *Journal* continues:—

This display is not merely for the gratification of public curiosity, nor to obtain cheap distinction for the animals shown, but it has a practical purpose to subserve—to afford an opportunity to farmers and others to inspect the fine stallions and jacks, whose services are to be offered to the owners of mares during the season.

The advantages of the exhibitions then are obvious, for a person of ordinary skill, intelligence and discernment, can form a very satisfactory opinion of the merits of an animal, after a critical inspection of all his points, and he can readily determine in his own mind, whether it is such a model as he would like to breed to.

Already, horse men are anticipating the exhibition which is to come off on next month, and from all we can learn the display will be one of more than ordinary attractiveness. There will be a great many celebrated horses shown on that day, descendants of the very best thoroughbred and trotting families of the State, and we think we can safely promise all who may attend, a most interesting exhibition. It will be a sight worth travelling hundreds of miles to witness, and the most phlegmatic individual, if a true admirer of this noble animal, will see enough to render him enthusiastic. If there be any rule of morality or policy that prevents any class of citizens from attending the "horse days" at our fairs, it cannot apply to this April show, which is free to all, and is unattended with betting, racing or any other performance, except such as may be necessary to show off the animals.

FIVE WAYS TO DESTROY ANTS.—1. Pour, copiously, hot water as near the boiling point as possible, down their burrows, and over their hills, and repeat the operation several times.

2. Entrap the ants by means of narrow sheets of stiff paper, or strips of board, covered with some sweet, sticky substance. The ants are attracted by the sweets, and, sticking fast, can be destroyed as often as a sufficient number are entrapped.

3. Lay fresh bones around their haunts. They will leave everything else to attack these, and when thus accumulated, can be dipped in hot water.

4. Pour two or three spoonfuls of coal oil into their holes, and they will abandon the nest.

5. Bury a few slices of onions in their nests, and they will abandon them.

For the New England Farmer.

OBJECTS OF AGRICULTURAL SOCIETIES.

OBJECTIONS TO THE AGRICULTURAL HORSE TROT.

The *Turf, Field and Farm's* criticism of your position on the "fast horse" question, headed *Stupid*, was certainly a most stupid defence of their pet institution.

They show that they have no claim to the last word of their title, for they speak of the farm, the farmer, and farming, with undisguised contempt. They "have nothing to do with carrots and cabbages," and agricultural societies they designate as "Green Pumpkin Associations." Evidently they have added the word "Farm" to their designation in order to catch the subscriptions of a few unwary farmers to a purely sporting journal.

But what do the farmers think of their argument in favor of the "Agricultural horse trot?" that "the fact is too plain to be contradicted that the majority of the agricultural associations are kept from bankruptcy by making their fairs attractive through the horse department." This, concludes the wise editor, is sufficient reason why the trots should be encouraged.

Perhaps if the gentleman knew what agricultural societies are for, he might have come to a different conclusion, but "the ignorance of some of the sporting papers is really deplorable." In hopes that "our city friend" may see this paragraph, we essay to enlighten him. Agricultural Societies are formed for the purpose of encouraging agricultural pursuits, by friendly competition and the dissemination of agricultural information.

The man who makes the greatest general improvement in his farm; who raises the best crop of hay, grain, or roots; who breeds and raises the best horses, cattle, hogs or sheep; is offered a small prize and the neighboring farmers are invited in to see what has been done, and be stimulated to go and do likewise. When an Agricultural Society ceases to be carried on for these simple objects, its right to its title ceases also.

Why are not "horse trots" (in the present meaning of that term) consistent with the above objects?

First: because they demand the largest premiums and the largest share of attention, thus putting true agricultural interests in a false position as being inferior instead of superior to the interests of "the turf."

Secondly: the trots create an undue excitement in the minds of the young, which being a point where difference of opinion is allowable, we will not discuss further.

Thirdly: the trots attract a low, vulgar, and vicious class of people, as well as an educated, intelligent, and respectable class of sportsmen. Blacklegs and prostitutes are not attracted by a display of agricultural products, or fine cattle, or even fine horses, unless there

is a race. But we venture to express our belief that the editor of *Turf and Field* never attended a trot where there were not a large proportion of those classes with whom he would consider it disgraceful for his wife, his daughters, or his sisters to associate. Such is the feeling of the better classes of farmers, so that the fairs instead of being the resort of farmers and their families, have been gradually deserted by those who would gladly support them, were it not for this excrescence.

Lastly, we claim with the two best authorities of England and America, Youatt and Stewart, that under the practices of the *Turf*, the horse has deteriorated in his most important and useful qualities—strength and endurance.

Any Agricultural Society that cannot be sustained without the addition of this "element of weakness," had better be abandoned. The money obtained in this way, acts like a canker into the true usefulness and value of the societies who receive it. C. W. D.

Springfield, Mass., March 22, 1871.

For the New England Farmer.

RAISING POTATOES.

For a few years past there has been much excitement in the potato line; and new varieties almost without number, have been crowded into the market, and with what result? That the majority raise no more, and no better potatoes than before. They forget that high cultivation is the basis of all good farming, and in no crop more essential than with the potato; also that it is useless to get new varieties, expecting great results with ordinary culture.

There are different methods of preparing the ground,—indeed almost every farmer has a way of his own. Many farmers plant their potatoes on their poorest ground, and plant a large piece, as they necessarily must, to get their supply. It costs a great deal to plant and hoe and dig them, and when they are finally stored in the cellar they don't make much of a pile after all. The boys get discouraged and can't bear to work, as their backs ache trying to dig up the tough, hard, and perhaps weedy ground, and inwardly resolve when they are out from under father's thumb, that they will not be farmers.

The potato will not thrive a succession of years on the same ground, as in village gardens, &c., unless much pains is taken to prepare the ground with especial reference to that crop. Where it is necessary to plant the same ground each year, early varieties only should be planted, and as soon as ripe, say the first of August, should be dug, the ground ploughed, a heavy coat of manure spread on and harrowed in and sowed with buckwheat or clover. If we sow buckwheat it should be turned under before hard frosts, and when nearly or quite in the blow. If we sow clover,

a little scattering of oats or some kind of grain should be sown at the same time, as it will need a little shade, and should not be ploughed until the time for planting the following spring. The ground will then be in excellent condition for planting, and almost entirely free from weeds.

The potatoes can be planted in drills very thick one way, say a piece of potato once in six or eight inches. In this way a large amount of potatoes can be taken from a small piece of ground, and always of good quality; the land can be continually cropped, and yet grow better and richer every year.

Where no preparations are made beforehand and the time draws near for planting, it is a good plan to turn over a rich clover sod, if we have such to spare, and spread on horse manure, or coarse barnyard manure and mix well with the soil. We need to put on some kind of manure or we don't get much of a crop, and it is folly to go over a large piece of ground and get a few small potatoes. The quality is better if we can take land that has been lightly manured the previous year, but it is better to prepare it late, than not at all.

I would say to T. L. H., that it is not because we are afraid of our creditors, that we sometimes withhold our names. We suppose it is not so much our *names* as good substantial facts, based on experience, that the readers of the FARMER want. Many of us are better *farmers* than *writers*, as the editors of the FARMER must know long before this time, but we are willing to do our best, and let our feeble light shine if any will be benefited thereby.

J.

For the New England Farmer.

AN EXPERIMENT ON STUNTED FRUIT TREES.

Last April I found an acquaintance at work upon his apple and pear trees, with the object in view of trying to remedy bad planting,—done by the job,—in a bad location, and half a dozen years' bad management. He had commenced by taking up some, (no small job,) and digging holes about seven feet in diameter and four deep. The soil, all but eight or ten inches on the surface, was clear sand suitable for making mortar. He proposed removing the sand and replacing it with good loam and some manure.

From this statement it can be seen what a formidable undertaking it was. Not less than two thousand large loads of sand and loam to be moved, and most of it twice; and the trees, over three hundred of them, to be carefully taken up and as carefully reset. I intimated to him that he had his full spring work before him, if he faithfully carried out his programme, and that sowing and planting would have to be deferred until another season.

He had not taken this view of the magnitude of the job he had laid out—too much

even for the fifteen men he had in his employ. He came to the conclusion to adopt the suggestion to dig a trench around the trees, just within the limit of the circle formed by the branches, to the depth of fourteen to fifteen inches and about the same width, and put into the trench four inches of good manure, mixing loam with it, and fill up the remainder of the trench with the surface soil of the orchard. All the roots that were injured by digging the trenches were carefully trimmed, and all the roots remaining as carefully placed as if setting the tree for the first time.

All the trees were trimmed severely. They made large growth and assumed a very healthy appearance. Some of them produced fruit bountifully. They were washed twice with a solution of whale oil soap, which effectually rid them of lice and moss.

The result of these operations was highly satisfactory, notwithstanding the season was very dry. I confidently expect still more favorable results the coming season should it prove ordinarily wet, as the trees will have the advantage of having got well under way, and nothing to retard them, as was the case last season. I have tried this method before with good results, but not on so large a scale. I am satisfied we never need fear a failure from the adoption of the practice.

The orchard referred to is cultivated as a garden, and is liberally manured every season. I will also say that the trees that were taken up and set again *died*.

K. O.

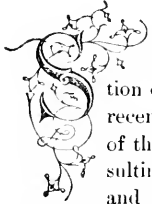
March 4, 1871.

STATE LAND IN AROOSTOOK.—In reply to inquiries about settling on State land in Aroostook, a correspondent of the *Maine Farmer* says;—1st, A young man must have at least fifty dollars before starting, unless he intends to work out the first season. If he has that amount he can locate, and fell five acres of trees in July, and then live with some farmer until he can get a barn; then clear it of timber in the fall ready for crops. 2d, The State lands are located principally in the vicinity of Presque Isle, Caribon and Limestone; each settler can take a certificate of 160 acres at fifty cents per acre, payable in four years in labor on the roads. He must build a house and barn, (frame or log) and clear fifteen acres, and seed ten of it to grass; then he gets his deed. 3d, In coming to this country, call at the Land Office in Bangor, and the Land Agent will direct you to such townships as are lotted for settlement. Settlers coming here must not expect to find good vacant lots on township roads; they will have to go back into the woods and live camp life for a while.

—It is estimated that there are 9,000,000 cows in the country, the dairy product of which annually is 3,000,000,000 pounds of cheese, and 575,000,000 pounds of butter.

TREES.

ORNAMENTAL AND FRUIT,—THEIR CULTIVATION,—
HOW THEY GROW,—THEIR DISEASES, ENEMIES, AND
USES.



OME of the causes which have influenced our people to give more attention to the cultivation of trees, were alluded to in a recent article, in which we spoke of the effects on soil and crops, resulting from the absence of trees, and mentioned briefly some of the qualities of the River Apple.

It is not strange, perhaps, that our forefathers demolished the magnificent forests with which the soil was once clothed, as though they were a nuisance to be abated, rather than one of the richest boons which Heaven had bestowed upon our land. Their great need was not shelter and warmth,—these the forest amply provided,—it was food; the means of subsistence. In the way of these stood the giant trees of the land, filling the earth with their roots, and casting their shade over the surface, so that the plants from which they might obtain food for themselves, and upon which their cattle and sheep might subsist, were utterly unable to grow. They must have open fields, and the sun's rays upon them, or they must die. So the ancient forests fell in every direction.

After all, there was an almost inexcusable thoughtlessness in the practice of that day, and in some degree in that of the present day. When a spot was selected upon which to erect the dwelling, every bush and tree was cut away, though there may have been standing upon it trees of charming proportions, and shrubs of various kinds, which would adorn any rural cottage. Winter winds were thus admitted in full force, and the unobstructed summer sun smote the inmates of the house through the curtainless windows, until they were glad to seek refreshing shade in the adjacent forest! A single year of such experience was sufficient to convince them of the error of their indiscriminate removal of the beautiful trees which once stood where they were now desired.

With all the light afforded by both precept and example, through several generations, against such a course, we see it adopted every year, where new settlements are entered upon and the forests are felled. A few years of

annoyance and impatience are passed, and then comes the process of transplanting trees around the dwelling, or, in some cases, of abandoning it to the use of the cows, and erecting a new one where fine shade and ornamental trees will protect the house and its inmates!

By the efforts of men, and of women, too, of taste and genius, our people are arriving at a more just appreciation of the beauty, healthful influences and pecuniary value of trees, and are exerting themselves to restore to our public grounds, highways, and especially private residences, the graceful and noble trees which in too many cases have been recklessly swept away.

No people had finer opportunities than our fathers to plant their dwellings in the midst of beautiful and grand scenery. Though clearings were indispensable, they did not demand total destruction. The Indians had spared and respected the ancient forests about their wigwams, but the first settlers, with less taste than the red man, girdled and burned them, and erected their houses in the midst of the desolation. Had they selected with good taste, and preserved the noble tenants of the soil in groups, or standing singly, around their dwellings, and along the water courses, by the way-sides, and here and there on their fields, we may readily imagine how different would have been the aspect of many parts of New England.

Our work, then, so far as it relates to forest and ornamental trees, is a work of restoration. This has been vigorously commenced in many parts of the country. Nurseries exist where all forest trees are propagated from their seeds, and inclined while young into beautiful forms. Tree societies are formed in many places for the purpose of adorning public grounds and highways. Individual enterprise is surrounding our dwellings with beautiful trees and shrubs, which are giving the country new attractions. This work should be encouraged not only by every lover of beauty and nature, but by every lover of his country; for as the land in which a man is born and reared, is made attractive by his hands, so will his patriotism be increased. It is not enough that it should be engaged in by amateurs, and by the wealthy, or even by those engaged in the mechanic arts—who, greatly to their credit have taken a decided interest in

this matter in many of our villages. It is obligatory upon the *farmers*, the most numerous and the most stable class in the community; men who are interested in every product of the soil and in every improvement, should at least manifest as much interest as any other class. They can contribute to this kind of improvement more easily than any other persons. If they would retain their sons at home, and have their daughters become the wives of New England farmers,—if they would impress pictures of beauty and pleasant scenes and associations upon the minds of their children, which they shall delight to contemplate in after life, let them engage heartily and actively in this work. It is to be feared that as a class, they have shown less taste and less public spirit in regard to this subject, than might reasonably have been expected of them.

A brief reference was made in a former article on the subject of trees, to their influence upon the soil, and climatic influences generally. Until recently, these influences have been very little understood. It is quite probable that all the good offices which trees perform in the economy of nature are not yet known.

It is possible that a want of trees may cause the *droughts* which scorch the land at one time, and the *floods* which wash away and drown it at another, and introduce such wide and destructive changes. In a highly interesting and instructive paper, read by Mr. CALVIN CHAMBERLAIN, of Foxcroft, Me., before the Board of Agriculture of that State in the winter of 1869, he spoke of the vast changes which have taken place over the present thinly inhabited districts of western Asia, northern Africa, and southern Europe, to show, in the *gradual waste of natural forests, a corresponding change in climate*. He says:

"If we compare the present physical condition of these countries with the description of them by the ancient historians and geographers, we see the luxuriant harvests of cereals that waved on every field from the Rhine to the Nile, the vine-clad hillsides of Syria, Greece and Italy, the olives of Spain, the domestic animals known to ancient husbandry,—all these, the spontaneous or naturalized products of these fair climes, the accumulations of centuries of persevering labor,—all this wealth, has in extensive districts been surrendered to helpless desolation, or at least to a great reduction in both productiveness and population. The forests have disappeared from the mountains, the vegetable earth accumulated through untold ages, the soil of the mountain pastures are washed away; the once irrigated meadows and fields are waste and unproductive, because the reservoirs and the springs that fed them are dried

up; rivers famous in history have shrunk to brooks, and the trees that protected their banks are gone; the rivulets have ceased to exist in summer, and in winter they are torrents of terrible force. The decay of these once rich and flourishing countries is mainly the result of man's disregard of the laws of nature."

Estimates carefully made in several countries of Europe, determine the proper proportion of permanent wooded surface to the entire area at 20 to 40 per cent., varying with the physical features of the country and the humidity of atmosphere as affected by neighboring water surfaces. Under our rapidly increasing population, and a proportionate demand for wood as fuel and timber in the arts, 40 per cent. of wooded surface would seem not to be too much.

Taking a comprehensive view of American forests, Mr. Chamberlain says:—"we find in California no wood for a lever or a pick-handle, better in quality than a pine limb. In the whole western half of our country no timber is grown suitable to make a carriage, a wheelbarrow, or any kind of a farm implement! All these are supplied from the East." If this be so, how transcendently important it becomes, not only to use what we now have with the strictest economy, but to set at work at once the most active measures to re-produce more. This should be done for two reasons which vitally affect our national prosperity. First, the effect of trees upon the climate, and consequently the crops; and secondly, the great interruption in the progress of the arts from the want of fuel and timber.

Mr. C. further adds, that "to learn of the effects of trees on atmospheric humidity and the crops of the farm, we need not look to Europe or the far West. Instances are noted within our own State, where contiguous farms under different extremes of conditions, manifest corresponding extremes of results, both in fruit products and the grasses."

One of the chief points which it is important to secure in our New England climate, is to prevent an extreme evaporation from the soil. One way of securing this, is by the office which trees perform in breaking up currents of dry air which pass over the soil. All haymakers have observed that the grass dries much more rapidly when there is some wind, than it does in a still, though very hot day. The moving air carries along with it the moisture evaporated from the soil, and thus the grass dries

rapidly. In order, therefore, fully to appreciate the important influence of trees in this particular, persons must become aware of the vast work that is going on in the soil during a hot summer day.

The average amount of rain that falls in a year in New England is somewhere from 35 to 42 inches; three solid feet of water! much of which *evaporates* from the same land upon which it fell during the summer months. Especially is this the case in the open country where drying winds prevail and much land is exposed by tillage. Hence the value of forests as arresters of evaporation, or as barriers against the sweep of drying winds.

The earth is a reservoir of heat, and if the air above it be dry, the heat that is radiated from it passes off as readily as if there were no air there. But a moist air prevents its escape, and it is this provision in nature that tends to make a climate even. If this column of moist air were suddenly removed, unspeakable calamities would follow. Prof. Tyndall says "the removal for a single summer night of the aqueous vapor from the atmosphere that covers England, would be attended by the destruction of every plant which a freezing temperature would kill." A traveller in Spain relates, that in the valley of Grenada, *where the trees have all been destroyed*, the heat by day in the sun's rays was oppressive, while the hoar frost was lying white in the shade. It has been calculated, that, from an acre of ground, during twelve hours of a summer's day, more than *sixteen hundred gallons* of water have been drawn up into the air in the form of vapor!

What a charming and sublime operation is this, and yet with what quiet power accomplished! How important is this wonderful process to us as farmers,—nay, how indispensable to the welfare and life itself of all animal and vegetable existence! These performances are interworking with the action of trees. Their united agency does its part in sustaining a healthful climate and a fertile soil. Earnest investigation only will reveal them to us, and urge us to plant frequently, and liberally, everywhere, so that our children may stand,

"Amidst their tall ancestral trees
O'er all the pleasant land."

In a future paper we propose to speak, briefly, of the *rotation of forest trees*.

SOW ONLY SOUND AND PURE SEED.

The annual aggregate loss on the farms of New England by sowing unsound and mixed seeds cannot very well be estimated, but would undoubtedly be very large. It would not be confined to the first cost of the seed; that would be trifling, compared with the loss entailed upon the farmer to clear his fields of the worthless plants which have been introduced in what he has sowed for grass seeds. Thousands of acres among us are teeming in harvest time with thistles, docks of various kinds, white-weed, bur-marigold, chicory or succory, mallows, dandelions, fireweed, buttercups, and many other vile plants. These are so hardy that no amount of moisture, short of total submersion, or any amount of heat or dryness, short of an actual blaze, will stop their growth. They are as persistent as a bull-dog, and defy all the common modes of extirpating plants. They not only rob the soil of the nutriment which the cultivated crops need, but by their hardy habits and continuous growth they soon exhaust it, so that the cost of ploughing, cultivating, manuring and re-seeding must be resorted to much more frequently than would be required if the weeds were not present.

Weeds are greatly on the increase, and will continue to be until some stringent legislative provision compels their destruction in fields and on the roadsides; and until dealers in seeds will *separate* all that come to their hands,—the sound from the unsound, and the true from the false. Some farmers, greatly to their injury, will purchase cheap seeds, and there are seedsmen willing to accommodate them. Cheap and worthless seeds are sometimes mixed with those of a good quality for the purposes of fraud. When convicted of this it ought to be a State prison offence. The only security in this particular is for the farmer to purchase from a house of character, and to pay a fair price for the article he requires.

In France, a farmer may bring suit against his neighbor who neglects to destroy thistles upon his land, or he may employ people to do it at the other's expense. In Denmark, there is a law to oblige the farmer to root up the corn marigold. Some 500 years ago, a statute of Alexander II. of Scotland was directed against that weed. The statute is short, and ably expressed. It denounces that man to be

a traitor "*who poisons the King's lands with weeds, and introduces into them a host of enemies.*"

But cleansing the roadsides and separating seeds by the sifter will not accomplish the good work so long as weeds are thrown upon the manure heap. Their seeds are as tenacious of life as are roots of the chicory plant, which we have cut six to ten times in a season for ten successive years, and in the following spring found it coming through the grass sod as though its head had never been decapitated!

The moment weeds are pulled they should be collected and burnt. If left to wilt upon the ground the plant will exert all its powers to perfect its seeds, and many of them will be so perfected as to start another crop.

The loss to the farmer by weeds choking his crops, depriving them of nourishment, and exhausting the soil, with the amount of labor eventually required for their extirpation, would be absolutely incalculable.

The person who sells seeds is inexcusable if he parts with them in *mixed* or *unsound* condition. It is not a valid excuse that he supposed they were good. He is as much bound to know that they were not mixed, as is the maker of the mowing machine to *know* that the wood and iron of which he constructed it was of good quality. He *can* know this, because machines are at hand which will readily separate a dozen different kinds of seeds, and at the same time place most unsound ones by themselves.

If this is not done by dealers, ten or a dozen farmers should combine and purchase one of Adams' mills—or some other, if a better one can be found,—for winnowing grain and separating seeds. A single machine would do the work required for twenty farms, at least. In a single bushel of rye-grass seed no less than 204,800 weed seeds were found! In a bushel of clover seed, 312,000, and this irrespective of dirt and particles of stone, which make cheap seed by far the dearest that can be purchased.

Our experience with weeds reminds us of the story of the fifty daughters of Danaus, among the heathen gods. All were married, and with a single exception, all killed their husbands! For this great impiety they were condemned to draw water out of a deep well, and fill a tub that was full of holes, where the

water ran out as fast as it was put in, so that they were tormented with a *perpetual and unprofitable labor.*

Our doom is a similar one. We weed, and groan over the labor, and then sow the seed for future crops! Of what "great impiety" we are guilty to suffer such a doom of *perpetual and unprofitable labor*, who can tell?

From the Youth's Companion.

GRANDFATHER'S BARN.

O don't you remember our grandfather's barn,
Where our cousins and we met to play;
How we climbed on the beams and the scaffold so high,
Or tumbled at will on the hay;
How we sat in a row on the bundles of straw,
And riddles and witch stories told,
While the sunshine came in through the cracks at the south,
And turned all the dust into gold?
How we played hide-and-seek in each cranny and nook,
Wherever a child could be stowed;
Then we made us a coach of a hog-head of rye,
And on it to "Boston" we rode?
And then we kept store, and sold barley and oats,
And corn by the bushel or bin;
And straw, for our sisters to braid into hats,
And flax, for our mothers to spin.
Then we played we were biddies, and cackled and crowed,
Till grandmother in haste came to see
If the weasels were killing the old speckled hen,
Or whatever the matter might be.
How she patted our heads when she saw her mistake,
And called us her sweet "chicken-dears!"
While a tear dimmed her eye as the picture recalled
The scenes of her own vanished years.
How we tittered and swung, and played meeting, as school,
And Indian, and soldier, and bear?
While up on the rafters the swallows kept house,
Or sailed through the soft Summer air.
How we longed to peep into their curious nests
But they were too far overhead;
So we wished we were giants, or winged like the birds,
And then we'd do wonders, we said.
And don't you remember the racket we made
When selling at auction the hay;
And how we wound up with a keel-over leap
From the scaffold down into the bay?
When we went in to supper our grandfather said,
If he had not once been a boy,
He should thought that the Hessians were sacking the town,
Or an earthquake had come to destroy.
How the years have gone on since in grandfather's barn
To play with our cousins we met?
Our eyes have grown dim and our locks have turned gray,
The golden, the brown, and the jet.
Yet still in my heart there's an evergreen nook,
Where childhood's sweet memories stay;
And no music to me has a charm that can thrill,
Like the voices of children at play.

FARMING A "LIBERAL PROFESSION."

In his address to the late graduating class of the Massachusetts Medical College, Rev. E. E. Hale said,—

"I am to try to illustrate those distinctions which separate what men call a craft or a trade from what they used to call and ought to call a liberal profession. * * * The simplest distinction between

a guild of craftsmen and a guild of men of liberal training is that the professor or master of liberal arts, by whatever name he may be called, mediæval or of our own time, has no secrets in his calling."

He then complimented the medical profession by saying that it "has distinguished itself in stigmatizing with every brand the meanness which would keep truth as private property."

On this principle of classification agriculture may claim to rank with the "liberal professions." Farmers have no "secrets in their calling." Though sometimes deceived and overreached by those who assume to "keep truth as private property,"—by dealers in secret nostrums, patent manures and patent implements,—farmers themselves act on the principle which Mr. Hale claims as the badge of the "master of the liberal arts" or the learned professions. In his conversation with private individuals and in his communications with the public through the journals devoted to his profession, the farmer has always freely communicated all the facts which his study of principles and his experiments in practice have developed or illustrated.

The mechanic or manufacturer may have "secrets in his calling;" he may perform some of his processes with closed doors, lest the truth which he holds as "private property" should be divulged, but the best results of our best farmers are open to the inspection and imitation of all. The columns of the NEW ENGLAND FARMER and of other agricultural papers are sufficient proof of the "liberality" of farmers, and good evidence that they have no secrets in their calling, no desire to keep truth as private property.

To this general rule we are sorry to acknowledge there are exceptions. A few cultivators of the soil would have us recede from this high position, and ask Congress to make a law recognizing the right of individuals to "keep truth as private property," to legalize "secrets in our calling," and to make the flowers of the field, the fruits of our orchards, and the woods of our trees patentable articles.

IMPORTATION OF WOOL.—According to statistics furnished by James Lynch, Esq., of the New York Custom House, the amount of foreign wool imported into this country during the past six years has been as follows:—

1870	12,470,351 pounds
1869	21,490,330 "
1868	12,319,361 "
1867	17,994,779 "
1866	36,066,186 "
1865	30,255,540 "

HORSES IN IOWA.—A correspondent of the Monthly Report of the Department of Agriculture, in Muscatine Co., Iowa, says, the raising of horses has been overdone there. We, as a farming class, have been crazy on the subject of speed, and are now reaping the fruits of our folly. Had we a number of years ago entered into the raising of horses for the farm instead of the turf, we would not have the comparatively worthless animals now

on our hands—not fast enough to win nor large enough to work. The majority of farmers are, however, again raising such horses as will always find ready sale. The Percheron is meeting with much favor. Mules are almost entirely neglected. Those wanting them, in most cases, go to the neighboring section of Illinois, where they are quite extensively raised.

DISCONTENTED YANKEES INVITED SOUTH.—After giving some extracts from the late article of our correspondent, N. S. T., in relation to the decrease of population in New England, and as to the importance of a home supply of food to success in manufacturing, the *South Land* expresses the hope that the unparalleled advantages offered by the South will not be overlooked by the discontented and unsettled people of the Eastern States, and says, "here we have not only the capacity to produce an abundant supply of all the necessities of life within easy range of splendid sites for factories; but we can and do produce the raw material for manufactures, of a quality that defies competition. Let the field and factory be brought within sight of each other, as they should be, and such elements of success are not to be found elsewhere as here in the South."

For the New England Farmer.

DEPOPULATION OF RURAL TOWNS IN NEW ENGLAND.

Although not in the habit of writing newspaper articles, the perusal of the essay bearing the above title, from the pen of N. S. T. of Lawrence, which appeared in a late number of the FARMER, made such an impression on my mind that I cannot resist the temptation of offering a few thoughts on the same subject.

And first, Mr. Editor, allow me to return my sincere thanks to N. S. T. for the excellent ideas he has so happily expressed and suggested; and which, I doubt not, will be appreciated by many a true lover of the beautiful hills of New England.

For many years I have noticed with painful feelings the prevalence of the evil of which he speaks; but as I live in more of a manufacturing than agricultural district, I was not aware that it was so alarmingly wide-spread until the census reports revealed the fact.

With the facts thus developed, no one of ordinary observation will attempt to deny the truth of the remark, that if something is not done to arrest the tide of migration, "ere long wild animals will return to their former haunts amid the hills and valleys of our dear old New England."

Allowing, as we must, that the principal decrease in our population arises from direct migration, and that too of those between the ages of twenty and thirty-five years, we are led to inquire into the causes of the migration of this class of people—a class so much needed

in all our industrial and especially our agricultural pursuits.

I will state one cause of the evil, not suggested by N. S. T. and which I do not recollect to have seen in print:—the withdrawal of capital by farmers from their business and investing it elsewhere. This operates to increase migration in two ways. First, indirectly, by conveying the idea to those cognizant of the fact that farming does not pay as well as other pursuits. If it did the farmer would not thus withdraw his means, but when he had a surplus he would increase his business correspondingly, the same as manufacturers do. Secondly, directly, by preventing him from giving employment to as many persons as he might were all his resources invested in agriculture.

Many farmers make it a point to invest a certain sum every year in bank stock, government bonds, railroad securities, or in some way entirely separate and independent of their regular calling as farmers. This prevents them from making improvements on their farms, which would give employment to many pairs of hands.

But says one, wages are so high that we must hire as little as possible, and invest our money where it will pay better. Thus men will toil early and late, through heat and cold, sunshine and storm, robbing the poor earth of everything they can, and making the least possible return; hiring only when they cannot possibly avoid it, and then getting out of the poor laborer's sinews the largest possible amount of work.

No wonder that the young, wide awake, intelligent Yankee, who feels that something besides such a life of constant drudgery is possible for him, seeks some new field for the exercise of his powers, and the enjoyment of life.

And then, does the course taken by these men have a tendency to make wages lower? On the contrary, does it not serve to raise the price of labor by driving a large portion—and that of the better class of laborers—from the country, and thus giving the few who remain, an opportunity to take advantage of the farmer's necessities, and demand exorbitant prices?

Then, again, these men have to pay much more for the amount of labor they hire performed, than they would if they employed help for a longer period. For instance a man will pay \$3.00 and sometimes more per day for help to secure his hay crop, but does not think of doing anything to improve his fields, who might, by hiring for a longer time, with the same money he pays a few men in a few days, hire one man long enough at a greatly reduced price, to do with the aid of machinery, the same work that these men do, and make some much needed improvements besides.

N. S. T.'s third suggestion to prevent migration, that "for farmers who employ help

throughout the year or a greater part of it, to erect neat, comfortable, but inexpensive houses upon their farms, and hire more married men," is the most practicable of any I have heard mentioned. Indeed the failure of farmers to do this in past years, has operated to drive this class of people to the west more, perhaps, than one would be willing to admit, who had never investigated nor had any experience in the matter.

Spending the first twenty years of my life on a farm, in one of the best agricultural sections of New England, and the last twenty in a manufacturing district, I can speak from experience on this point.

Marrying young, and being obliged to labor after marriage to support a family and obtain means to commence business for myself, I found that I could not do this by laboring for a farmer, as my inclinations led me to do; for I could not obtain a tenement for my family, in which they would feel respectable and be respected. Hence I must either change my occupation, or shift for some other quarter.

And my experience is not a solitary one. Thousands of men have left the service of farmers in New England for this very reason. In farming neighborhoods the Yankee girl may consent to work in the family of neighboring farmers, but after marriage she is not willing to do so. The farmer may say that it is no worse for her to "work out" after marriage than it is for her husband to do so;—no worse for her to work than it is for the wife of the farmer. True, in one sense. She is willing to work, expects to work, and glories in her strength and ability to labor. But for what and for whom? For a home of her own, and for the man who has won her love. And few Yankee men are willing to place their wives at service, or in some old tumble-down tenement fit only for bats and owls. But if a suitable home can be provided, not expensive, but tidy and comfortable, with a chance to cultivate a few flowers and perhaps feed a few chickens, she *will* labor to make that home pleasant and joyous, and her husband contented and happy. Most men so situated, will have no desire to change their situation, but will be willing to work for a reasonable price, provided they can have steady employment, year after year, being able to save a portion of their earnings every year, until they have obtained a sum sufficient to secure a home of their own; and then they will resign their position, and, with many sweet remembrances of the past, they and their family will bid adieu to their pleasant home, soon to be occupied by another, ready and anxious to secure the situation,—to go, where? To the West? I answer, *No!* I believe that a small part of families, after having been in the enjoyment of such circumstances and surroundings for a series of years, will be willing to bid a final farewell to their native hills, and break away from all the hallowed associations,

and leave all the blessed institutions of New England, to endure the roughness, hardship, and privation of a new western home.

Another good plan to be adopted by farmers to prevent the migration of farm laborers, is to give them constant employment, not only *nearby*, but *quite* throughout the year.

A few days since, in conversation with one of the most flourishing farmers in this vicinity, N. S. T.'s article was referred to, and he expressed himself as follows: "He has stated a great deal of truth, and his ideas are very good. No one can deny that our rural districts are being fast depopulated, and this is done by migration, and something must be done to arrest it."

In reply to my question as to his opinion of the policy of hiring a few months only in a year, he said: "I think it a poor plan. I have always hired my help by the year, and those who hire only six or eight months, not only have to pay a much greater per cent. than I do for having their work done, but this course tends to reduce the number of laborers, and raise the scale of wages."

I also asked him what he thought of the course pursued by many farmers of withdrawing capital from their business. He replied: "I know it is the course taken by many, but I think it very poor policy; for it not only hinders them from making improvements which they otherwise would, but also prevents them from keeping their land in a proper state of fertility,—the soil becomes exhausted, and their farms decrease in value."

The opinions of such men, thus candidly and honestly stated, are not to be disregarded. Every farmer who can possibly do it, should give his help steady employment. In this manner a better class of laborers can be secured, for this class want steady employment at a fair price, and will not consent to the arrangement which has prevailed to so great an extent in New England, of farmers giving work to a large number of men during the summer months, and letting them "shirk for themselves" in the winter. A married man cannot do this, and the smartest and most capable single men *will* not, but will seek work where they can have constant employment.

I had thought of offering some suggestions on the different ways of giving employment to farm hands during the winter months, also comparing the actual profit per acre of Eastern and Western farming, but as I have already too much prolonged this article, I will reserve these as subjects for a future article, or perhaps more properly for the pen of some experienced and more able writer.

C. C. FULLER.

South Gardner, Mass., March 13, 1871.

—A Passumpsic correspondent of the St. Johnsbury, Vt., *Times* says those of our farmers who tapped in season, have made a good amount of maple sugar. J. P. Foster has made a pound to a tree.

For the New England Farmer.

IMPORTANCE OF GOOD SEED,

CAREFUL PLANTING AND SUBSEQUENT CARE OF CROPS.

All who cultivate the soil are interested in the matters referred to in the heading to this article. However orthodox may be the belief of most farmers on these subjects, it does not save many of them from sad derelictions of duty, if we form our opinions from what we too often see of their practice. With them seed for planting is not as a general rule selected from the earliest maturing and most perfect plants. These are laid under contribution either for the table or the market, while the later and less perfect are depended on for seed, or the seed dealer resorted to for supplies, which too often disappoint the expectations of a crop from them. It is difficult to conceive how it can be otherwise than disappointing. It is a well established fact that the earliest maturing plants will furnish seed that in turn will produce earlier plants than those that under the same circumstances required longer time to mature. But seed dealers cannot always, if they would, make a very careful selection of such plants for seed and reject all the rest, or sell their product at less cost to the purchaser. Both early and late, bad and good, are gathered together, and an average quality is put on the market. And sometimes worse than that is done, for I have been victimized with old onion seed, greatly to the debit of profit and loss account.

Good seed, however, cannot be relied upon to produce good crops unless it is carefully planted. It is often true that the seed is condemned, when the whole fault lay in the miserable manner in which it was planted. I once planted a field of beets that well illustrated this point. The drills were *all* marked out previously to commencing to drop the seed. About seven-eighths of it was dropped by hand before night and not covered. During the night and succeeding day it rained hard. On examining the portion dropped previous to the storm, I found that the seed appeared to be well covered with earth by the rain. As I was going from home, I told my men to plant the balance of the field when sufficiently dry. Without waiting till the land was dry enough they put in the seed. Contrary to my expectation, they succeeded in dropping the seed without re-marking the drills. The seed was almost on a level with the surface of the soil and was covered with very moist earth. It came up badly, and the plot worked badly all the season, while the other portion of the field, on which the seed was covered by the washing of the rain worked well, and yielded a crop at the rate of fifteen hundred bushels per acre.

Another case of loss by improper planting occurred the past season. A field of about twenty-five acres was furrowed out for corn

A dozen or more men went on to plant it, each having a pocket tied around his waist to hold the seed corn and pumpkin seeds mixed together. Some of the men were accustomed to the use of the hoe, others not. All were expected to *keep up* in some way, and they did so. After the corn came up, I went over the field and found great irregularity in the number of plants in a hill. The men were directed to put four kernels of corn in each hill. I found that but few hills exceeded that number of plants; while the hills with three, two, and *none* were largely in the ascendant. The field was not planted over, and when the harvest came it was rare that a hill having four good ears of corn was to be found, notwithstanding much the largest part of the field was good strong land, adapted to corn, and heavily manured. The after culture was much after the style of the planting. Let us suppose that each hill had been stocked with four good plants and well cultivated, might we not be justified in concluding that the increased amount of the crop *over* that obtained would have been sufficient to pay for all the labor of planting and after culture? Are we not justified in saying that the profit of raising the crop was sacrificed by this unwise course? This was my conviction at the time the corn was cut up for shocking. Let us see if the conclusion is not a just one. The corn was planted in hills 4 by 3½ feet. This gives us 3111 hills to the acre. With four good plants to each hill, and a good ear to each plant, we have 12,444 ears to the acre. As 200 ears will give a bushel of shelled corn, we obtain a yield of 62½ bushels from an acre. But as the field would not average more than two and a half ears to the hill, there was only 7,777 ears, giving us 39 bushels to the acre, or 23½ bushels less than where four ears to hill are obtained; making a large aggregate on a field of twenty-five acres, where corn is worth, as with us one dollar a bushel. The above mode of computing the yield of corn per acre, furnishes a close approximation with our northern varieties of corn.

The season was a dry one, and the frequent stirring of the soil was not resorted to, to alleviate the sharpness of drought. I tried an experiment on some broom corn, to see if I could benefit it by stirring the soil to a greater depth than usual in cultivating it. It had been wilting for some time, during the middle of the day, and the bottom leaves had died. I experimented with six rows, stirring the soil of two rows three inches deeper than that of the other four rows. All were alike when the experiment commenced, and all were hoed weekly. The hoeings were kept up through the season. In a few days after the soil of the two rows were stirred deeper, they began to show signs of increasing verdure and vigor. At harvest time they were about a foot taller than the other rows, and the straws much better in size and quality. This experiment

serves to confirm what has been demonstrated so often as to the advantage of deeply stirring the soil during the continuance of a severe drought. Our western corn growers understand the profits of this practice if we are to judge by the *old saw* in use there, viz: "*in a dry time rush the plough.*" The plough is in general use there for working among the corn.

Feb. 25, 1871.

K. O.

CROPS IN THE CONNECTICUT VALLEY.

From an essay on "the crops for the farmers of the Connecticut Valley, their profit and effect upon the land to be taken into consideration," by A. K. Warner, read before the Franklin, Mass., Harvest Club, Feb. 25, 1871, and printed in the *Homesstead*, we make a few extracts:—

First, let us inquire why it is that corn has almost left the Connecticut Valley. Ask your neighbor—he will tell you that he cannot afford to raise corn at the present high price of labor. Let us consider for a moment if this answer is correct. In my observation, the average yield of corn per acre now, is about thirty bushels—ten years ago it was about fifty bushels.

I am fully persuaded that the raising of corn in the Connecticut Valley can be made as profitable as any other hoed crop, when the effect upon the land is taken into consideration. I am aware that I differ with a great many wise farmers. I would not advocate making corn a specialty, or any one other crop; but is it not a fact that the tobacco crop of this Valley has been made a special crop for the past ten years, to the detriment of the corn crop? First, by taking all the farm manure to grow the tobacco, and the best soil, while corn has been second in importance, and planted on the poorest land, without manure; consequently, the yield of corn is very small—hence the common remark, "we cannot afford to raise corn."

Now, then, what crops can be raised profitably, when we consider their effect upon the land? It seems to me that the grass crop stands first in profit to the farmer. Here let me say, in connection with this subject, that a wise farmer will put each of his acres to the production of what it is best adapted to produce. And, with the variety of soil that this valley contains, the question is at once settled that we cannot make a specialty of any one crop, and add to the value of our entire farms. Consequently, a large portion of what we now receive for tobacco, is taken from the value of our farms.

The farmers of the Connecticut Valley, when receiving the money for their tobacco, actually receive a portion of the principal invested in their occupation, and are too apt to

consider it all profit. For while ten acres are being made rich for the cultivation of tobacco, the remaining ninety of an hundred acre farm are gradually growing poorer. I now have in my mind a farmer that has fifty acres of land. He is obliged yearly to apply all the manure he can make from the produce of his farm to two acres of tobacco, consequently forty-eight acres of his farm is yearly cropped without returning anything to enrich the soil; or, in other words, cropped to enrich two acres of tobacco, thereby drawing from the value of forty-eight acres of his farm and putting it in his pocket. But suppose this farmer should change his plot of two acres every year for five years, that is as long as the first two acres will yield a good crop of anything without again applying manure. In this case he can only enrich ten acres of his fifty, the remaining forty must necessarily be growing poorer.

The tobacco crop returns the least to enrich the soil of any product raised upon the land in the Connecticut Valley. This one fact is enough to convince me that all our farmers are raising more tobacco than is profitable, or beneficial to the farms in this valley.

In determining which crop to raise for feeding on the farm, we must not merely ask the simple question, which crop will afford the most nutritious matter, or bring the most ready money, but which will ultimately be most profitable, taking into consideration the effect of its growth upon the soil, its value as food, and the value of the manure made by its consumption on the farm.

Many farmers think manure is manure, no matter how it is produced. If the elements which make rich manure are not in the food, they will not be found in the manure, however carefully it is preserved or composted. Now, if the relative value of manure obtained from the consumption of a ton of clover hay is worth half as much again as a ton of meadow hay, (I think this true everywhere) this fact should be taken into consideration with reference to this question. It has been proved that a ton of Indian corn fed to farm stock is not worth as much for manure as a ton of clover hay fed to stock. A ton of oats is worth more for manure than a ton of Indian corn feed.

Oats can be raised with less labor than any other grain crop, and will thrive on a great variety of soils. They require less labor in planting and cultivating than corn, and are sown to a considerable extent on this account; but, as a general rule, the oats are obtained at the expense of the succeeding crop, while Indian corn leaves the land cleaner and in much better condition for future crops. With our improved horse hoes, there is no excuse for those farmers who neglect to keep their corn land mellow and entirely free from weeds. When this is done we can in ordinary seasons, and on the majority of soils, be sure of a good crop of corn. Repeated stirring of

the soil would not only destroy the weeds, but would make the soil moister in dry weather, and increase its fertility, besides leaving the land cleaner and in much better condition for future crops. We must consider also that one acre of good corn fodder is worth as much to feed our stock and make manure as an average acre of meadow hay.

There are many other grain crops well adapted to the soil of the Connecticut Valley, such as wheat, rye and barley. Of these, rye will succeed best on the driest and poorest soils. It will grow where wheat, barley, oats and Indian corn would fail. With the aid of a little manure it can be grown year after year on the same soil. It is exceedingly grateful for manure, and its application to this crop is quite profitable, especially in localities where the straw is in demand. Barley can, I think, be raised in this valley profitably. For the past ten years barley has brought a higher price than wheat, pound for pound. Where the soil is well suited to its production there are few crops more profitable. I believe that three bushels of barley can be raised with as little expense as two bushels of wheat. Finally, the soil of the Connecticut Valley is good for nearly every kind of grain.

Now, then, when we take into consideration the effect the various crops have upon the land, we cannot afford to raise tobacco alone. Every real, practical farmer, should raise everything for the support of his family that he can without actual loss, for it often happens that the season may be a very bad one, for one crop, and an excellent one for another. And again, a variety of crops can be raised much cheaper. First, because a variety will not impoverish the soil as much as one crop.

Here it is proper for us to take into consideration the relative value of manures from different foods; also to determine what particular feed is best to give our farm stock. These two questions deserve to be profoundly studied by every farmer.

ROOM FOR SURPLUS HONEY.

In the "Annals of Bee Culture," Mr. William Carey says: I have had a single colony of bees store away sixty pounds of nice surplus honey in twelve days. Now, if I had neglected to furnish that colony the necessary arrangements for storing surplus for six of those days, the product would have been only thirty pounds; if the neglect had been continued twelve days the result would have been, no surplus, which would make a difference of \$18. There cannot be too much importance attached to giving bees plenty of room to store surplus, and that at the right time.

Some may ask, when is the right and proper time to give their bees a chance for storing in boxes? In answer to such a question—it is the right time when your bees become numerous enough so as to occupy all their combs in

the body of the hive. As soon as one box or a set of boxes are filled, remove them, and put empty ones in their places. I have often been told if we manage in this way we shall get no swarms. I think differently. Supposing you do not get so many swarms—which I think you will, or nearly as many—you will get a large amount of surplus honey, which you can readily turn into cash, and make bee-keeping a profitable and pleasant business.

In conclusion, I would say, use the best movable comb hive; have everything nicely arranged about your apiary; perfectly understand your business, and you will find bee culture both pleasant and profitable.

EXTRACTS AND REPLIES.

THE TITLE OF FARMER.

When men are subjected to as rigid examinations before they are called farmers, as they must be before they are called lawyers or doctors, then, and not till then will farmers take the rank to which they are entitled among the professions. Would you affix "M. D." to the name of one who had spread a plaster or moulded a box of pills, but who knows no more of medicine or the human system than that? If you would not, why call a man a farmer who knows no more of the profession than may be known by loading a cart with manure, or holding a plough to turn it into the soil? a.

New Hampshire, March, 1871.

REMARKS.—Perhaps the most practicable means to accomplish the object proposed by our correspondent would be to get some congressman to move his proposition as an amendment to the Civil Service Bill, providing that the same commission which decides the qualifications of candidates for public service shall also rigidly examine the fitness of those who aspire to the rank and title of farmer. This is an age of progress, and a process that shall assort men, as our best winnowing mills do grain and seeds, may be invented and brought into practical use, and thus save much time over the old practice of testing and knowing them by their fruits.

THE BUSSEY FARM.

Is the "Buzzy" Farm alluded to by you in the FARMER of last week the same as the Benj. Bussey Farm, or is it some new establishment?

E. COOPER.

Winchester, Mass., March 8, 1871.

In connection with notices of Percheron horses, Jersey cattle, &c., I have frequently seen the "Bussey Farm" mentioned. At the time establishing the Agricultural College I remember it was also spoken of. Can you give some information as to the history and present condition of this property? What is the Bussey Farm? G. W. P.

Worcester County, Mass., March 12, 1871.

REMARKS.—Our Winchester friend is probably criticising a typographical error. "Buzzy" was a misprint, and our allusion was to the Benj. Bussey Farm. Though not claiming to be well posted on the subject, we will say, in reply to "G. W. P.," that we understand that what is known as the Bussey Farm, is part of a large property, including

several valuable city estates, that was willed by Mr. Bussey to Harvard College, on certain conditions,—one of which was the establishment on this farm of an agricultural college or school,—which conditions the college accepted.

We understand that of the income of this fund, one-fourth was appropriated to the Law School, one-fourth to the Divinity School of the college, and one-half to the establishment of an agricultural branch or school, on the Bussey Farm, at the expiration of a life lease vested in certain children and grand children of Mr. Bussey, the last of whom we understand is the wife of the present occupant, Hon. Thomas Motley. Though the college has not as yet obtained possession of this farm, we understand that the Trustees have made arrangements with the occupants, by which they are soon to erect a building for a laboratory, as a beginning of the proposed agricultural school, in connection with Harvard College. Ample means for this commencement have been accumulated from the income of the fund above referred to. Hence Massachusetts is to have two agricultural colleges. Gov. Andrew, it will be remembered, earnestly advocated the union of the national fund for the establishment of an agricultural college with this fund thus previously vested in the corporation of Harvard College by Mr. Bussey.

CATTLE GNAWING BOARDS.

It seems to me as though people were rather diffident about advancing any ideas with regard to the cause or cure for cattle gnawing boards; and I have been thinking that I would give the ball a start, hoping that some one will keep it moving till something definite is ascertained.

About nineteen years ago we had a very dry summer. There was but little more than one-half the usual amount of hay cut, which was principally done by hand. The grass was filled with a gum that would stick on the scythe near the edge when the grass was dry, and it was necessary to either wash the scythe or scrape the gum off with a knife occasionally in order to have it cut well. The grass required but little drying, and it made solid, hearty hay, of which but a trifle more than one-half of the usual amount, in bulk, was required for a foddering. The pastures, too, were very dry, and in some instances cows were fed with hay in haying time; a thing not very often done in this vicinity.

In the fall cattle come to the barn hungry for sticks, boards, bones and in fact almost anything they could get hold of. The colts were as bad as the cattle. The marks then made by their teeth can be now seen on the timbers in the shed where they run that winter. Salt, ashes and dirt were given to them, but did little or no good.

The past season, although not equal to that nineteen years ago, was very dry. The hay is well filled with gum, is hearty and spends well. When cattle came to the barn last fall they would eat a piece of board with as much relish as a dog does a bone.

Sometimes a cow will be lame in a dry summer, and have what is called the bone disease, for which bone meal is highly recommended; but I think that is some like the prescription of the doctor who recommended his patient to eat hearts, because he had the heart disease.

Now it seems to me that the cause of all these difficulties must be the want of some quality or

property that the grass fails to receive either from the atmosphere or the soil or both, from want of the usual amount of rain. If there is some property lacking in the grass or hay of a dry season, cannot some one tell us what it is, and how it may be supplied? I have been feeding part of my stock for about four weeks with turnips and potatoes mixed together, with good results; and if they should come to the barn another fall with an appetite for the barn-yard fence, &c., I shall give the turnips and potatoes a trial to commence with, unless some one can recommend something better.

Cabot, Vt., March 7, 1871. C. M. FISHER.

MAKING WINTER BUTTER.

A few years ago it was my good, or rather *bad* luck to have a few cows giving milk in the winter. As there was no sale for milk we had to make butter. Our method was to strain the milk in pans, and set them on the top of a kettle in which water was boiling, and let them remain till the cream began to wrinkle, then put the pans in a closet where milk would not freeze, let it set forty-eight hours; then skim, stirring the cream as we skimmed each pan. When cream enough for a churning was collected, we put scalding water in the churn, let it remain a few minutes, poured it out, and put in our cream, usually churned 15 or 20 minutes, and always had good butter. We always brought our cream dish into the room where we kept fire, and let it remain two or three hours before churning.

Our feed was corn meal and good hay. Have tried oil cake (flax seed) and always had oily butter. With cotton seed meal have had excellent butter,—firm, sweet and good color. We simply tried the two kinds of feed for a short time as an experiment. We got more milk and better butter from the cotton seed. SENEX.

Cumberland, R. I., Feb. 20, 1871.

OPIMUM FROM THE POPPY.

I see that "E. N. S." makes inquiry in *FARMER* of February 4, concerning the proper manner of gathering opium from the poppy. Allow me to make a few suggestions which the facts will bear out. The best opium of commerce is gathered from the Turkey or Smyrna poppy, which has been introduced into this section. In general appearance the plant cannot be told from that growing in Turkey; but the opium prepared from it contains only about one-third or one-half the proper percentage of morphia, and is very deficient in the other properties of the true opium. The seed has commanded very high prices, as high as \$40 per ounce. But I believe the acreage is diminishing rapidly, and I think will be among the things of the past soon. JONES.

Vermont, March 7, 1871

WINTER CARE OF STABLE MANURE.—PLOUGHING IN MANURE.

Nearly one-half of my hay is consumed by sheep, and it is my practice to keep stock housed most of the time in cold weather. My horses and cattle occupy one side of the barn, and their excrements go into the cellar under them. Several times in the course of the winter and spring the accumulations of the sheep pen are thrown into the same place. My hogs have access to this manure pen and aid materially in working over the contents. The whole is forked over once at least and mixed say with one-third its bulk of loam; this is usually done when the weather is unsuited for out-of-door work. By this course of treatment the whole mass becomes thoroughly pulverized without being excessively heated. I am aware this does not advance spring work like drawing manure into the field;

but I think it affords a better opportunity for putting it in the best condition to use, and on this account may meet the wants of some farmers.

A word in regard to the application of stable manures. Some years since in preparing a small piece to seed down with wheat, one-half the plot had manure under a shallow furrow, the other half upon it, well harrowed in. Care was taken to have the dressing uniform both in quantity and quality. But, unlike your correspondent of Wilmington, Vt., I found a marked difference in favor of that portion of the field where the manure was ploughed under, both in the wheat and grass crops which followed. I do not call in question his general conclusions, but this experiment convinced me that under some circumstances barn yard manure will do more good a little below the surface. H.
North Weare, N. H., 1871.

DRYING AND CANNING SWEET CORN.

Will the *FARMER* or some of its correspondents have the kindness to give the best method of drying and canning sweet corn for winter use?

Wellesly, Mass., March 11, 1871. C. B.

REMARKS.—We have had no experience in canning sweet corn, as we have been well satisfied with our process of drying it. Late in the season, or whenever the corn is plenty and cheap, our folks boil a good kettleful at once, cooking it as for table use. Then eat the kernels from the cob, place them on tins and dry them by the stove. They might probably be dried in the sun, but we have not tried that way. When sufficiently dry the corn is tied up in cloth bags to keep out insects and kept in a dry place.

To prepare it for breakfast, if there is plenty of milk and no danger of its souring, the corn is soaked in cold milk over night. But if there is danger of the milk souring, it may be heated before pouring on the corn. If milk is scarce, the corn may be soaked in milk and water, or even clear water. Milk, however, adds much to its palatableness. In the morning it is put on the stove and warmed, then buttered and salted to taste.

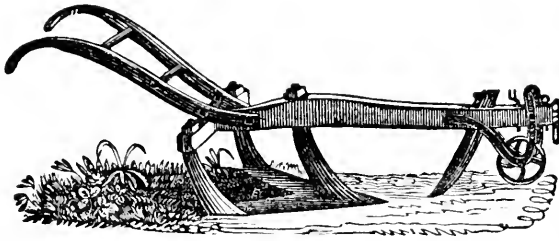
THE SEASON, SUGAR, STOCK AND CHEESE FACTORY IN MAINE.

The season in Franklin County Me., is some three weeks earlier than in former years. There has been but little snow, not over a foot in the woods, scarcely enough to accommodate the lumbermen, and that is about all gone. Wheels are run through to the lakes. Sugar makers are on their taps, and maples are yielding bountifully. The weather is very mild, promising an early spring and lengthening out the hay mows.

People in this section pay particular attention to stock raising, of which many fine specimens are exhibited. Butter and cheese are of secondary importance, while in fact they should be first and foremost, as more ready money can be realized therefrom than by any branch of farming. There is a movement on foot in the town of Strong to inaugurate a cheese factory. A company has been organized and officered and site located, with a capital stock of \$50,000,—shares at \$50 each. Farmers are taking hold with a will that insures success. Strong is on the Sandy river, twelve miles north of Farmington, the terminus of the Androscoggin railroad, and is surrounded by a good farming country which will afford every facility for the successful operation of an enterprise of this character.
Farmington, Me., March 18, 1871. ZEN.

PARING PLOUGH.

Please inform me if you know of any machine for cutting hassocks or bogs. I found a copy of the *Working Farmer* for 1850, which spoke of a machine for cutting bogs, invented by Dr. Paul of Belvidere, New Jersey, which would do the work



of over twenty men, having one man to manage the machine and a boy to drive the oxen. The editor promises to give a description of the machine in the next number. W. R. VILAS.

Burlington, Vt., March 22, 1871.

REMARKS.—We find by referring to the volume of the *Working Farmer* for 1850 that the cuts of Mr. Paul's Hassock Cutter were published on page 139. It represents what we think would be a costly and unwieldy implement, which we cannot well describe without the cuts. It has a bottom plate or cutter four feet wide, with upright cutters from each front corner of this bottom plate which is concave, so that an idea of Mr. Paul's machine may be formed by supposing the team to be hitched to the rear of the plough or parer above illustrated.

This illustration represents a plough for paring turf lands preparatory to burning, manufactured by the Ames Plow Company. The forward cutter seen in the illustration is not now applied, as the parer has been found to work better without it. The share is thin and flat, made of wrought iron, steel-edged. It has a lock-coulter in the centre, and short coulters on the outward edge of each wing of the share, cutting the turf as it moves along into two strips, about one foot wide, and as deep as required. Men follow with sharp spades, and cut these strips into suitable length, say of two or three feet. These pieces are then thrown into heaps, and after drying they are burned, and the ashes spread broadcast on the land.

Other manufacturers have adapted ploughs to similar work, but we do not know of any now for sale specially designed for cutting hassocks.

BUTTER MAKING.

The diversity of recommendations that have recently been given in the *FARMER* for making the butter come, have amused me not a little, and at the same time reminded me of the doctor who was in doubt as to the disease of a patient and gave him a mixture of all the medicines in his saddle bags, hoping that some one or more might hit his case. But as in the multitude of counsellors there is safety, I will give in as few words as possible our process of butter making.

For over two years past we have churned once a week in winter and twice in summer, and have not exceeded twenty minutes in gathering the butter at

any time. This winter it has not taken over ten or twelve minutes at any time, generally it has not exceeded six or eight.

For the week ending February 24, the milk drawn from a two-years-old heifer and from her mother, both full-blood Alderney, was weighed when it was strained into the pans, and an exact account of each mess was kept. The milk amounted to 126 pounds and 7 ounces; one quart of which weighed 2 pounds 7 ounces. The cream was separated from the milk so as to retain as little milk with the cream as possible; about one-half of the cream was put into a dash churn. In less than four minutes by the watch after commencing to churn, the butter was gathered. The cream on the lid was put down and dashed three minutes more, which finished the churning. The other half of the cream was six minutes in gathering.

The whole was put together and salted one ounce to the pound. In the afternoon the butter was thoroughly worked over and put into pound lumps. There were eight pounds and ten ounces of hard solid butter. The working was all done with white oak spatters. Not a particle of water, saltpetre or sugar is ever applied to our cream or butter under any circumstances whatever, believing they could not benefit but would greatly injure the flavor. Eight pounds were churned to-day in six minutes.

Corn, rye and oat meal with wheat shorts, are given to the cows with a little salt once a day, with good English hay cut early.

W. ADAMS.

Swansey, N. H., March 3, 1871.

HOW TO LOAD A WAGON.

Having read the article under the above heading in the *FARMER* of March 11, may I be permitted to "elucidate" the matter from a practical point of view. Granting that, philosophically, the reasoning of that article is correct, the deduction that a wagon should be loaded heaviest behind may not be so.

Every teamster should know that the closer the team can be got to the load the more they can draw; also, that a very long wagon is objectionable. From my own experience, I think the consideration of distance overbalances the philosophic one. May I suggest to any reader of the *FARMER* who owns one, a dynamometer trial?

Meanwhile, if any one wishes to see whether science and practice agree, let him repair to the foot of a steep hill with his team, and load them to their full capacity, putting five-ninths of the load in front and four-ninths behind; then draw it up. Afterwards, let him try the same load five-ninths behind, and I think he would get a dislike to that manner of loading.

HUNGARIAN GRASS.

I hope the readers of the *FARMER* will not be deterred from trying Hungarian grass by the unfavorable experience of a late correspondent. I have no hesitation, after three years' trial, in recommending it as the best crop a dairy farmer can put on old ground well manured. When well cured it is eaten with great relish by both Massachusetts and Illinois cattle and horses, but is rather too coarse and stemmy for sheep. Should not cut it till after blossoming. F. L. SANDERSON.

Petersham, Mass., March 11, 1871.

LOSS AND SUPPLY OF PHOSPHATE.

The hills of New England have become exhausted of their phosphate by the continued sale of the bones of our farm stock, without the return of its equivalent to the soil. Consequently our

fields that once produced timothy and clover now only produce white top. So far as my knowledge extends the general complaint year after year, is that the white top increases. Now this can be remedied only by restoring the phosphate again to the soil. Nature's laws cannot be violated with impunity, for the sins of the fathers will speedily be visited on the children to the third and fourth generation.

BRADLEY'S XL SUPERPHOSPHATE.

Last season I purchased two barrels of Bradley's XL Superphosphate and applied it to different crops with the best results. Three dollars' worth applied to about one-third of an acre of sod land broken the fall previous, and sowed with half a bushel of wheat, without any other manure, produced a fine crop of wheat as ever I raised. Its phosphoric acid probably furnished the material for a full and plump berry, besides forwarding the crop some six days—quite an item in many seasons. I also used it on beans, sweet corn, onions, cabbages, and most garden vegetables, with fine results,—forwarding the crops a full week.

To produce the largest crop of wheat to the acre, I should, with the light I now have, sow 300 lbs. of Bradley's XL, covering it immediately with the harrow after sowing the seed, for it will not bear long exposure to the air without loss of some of its valuable qualities which may escape into air. I have bought again this season more than I did last, and am going to use it in the same way, believing that with it our *hills* can be covered with beautiful crops of grain.

Now Mr. Bradley is a gentleman personally unknown to me. I have no interest in the sale of the Superphosphate. I make this statement in justice to a valuable manure, which if kept up to the standard of that made last year, will in my opinion prove a lasting benefit to New England.

D. L. HARVEY.

Epping, N. H., March, 1871.

EARLY SPRING.—CANKER WORMS.

It is hard for us to realize that spring is here. March seems to have forgotten how to reign, and instead of cold winds and driving snows, we have warm sunny days, and singing birds. More than a week ago the robin heralded the coming of spring from the tree top; the blue bird caroled of it in the vale; and the swallow twittered it from the eaves of the friendly barn. Already the farmer is turning the cold damp soil up to the sun and air, and the impatient ones are planting peas in sunny spots. The bark upon the peach and pear trees begins to brighten up, and the buds upon the lilac are large and full. The grass is showing green in many places and the roads are fast becoming dusty, not having been nearly as muddy as usual. Wild geese have been going by, sounding their curious note out upon the air, but generally keeping themselves out of sight. The Merrimack has been clear of ice nearly two weeks. It went out very quietly, without any rise of water, but within a few days a slight freshet has disturbed its smooth flow, and some drift wood has floated by.

Such skating as there has been upon its frozen face the past winter, has not been seen here for years, and the boys mourned bitterly as their favorite play-ground slowly drifted out to sea. Two or three unpretending ice boats made their *debut* during the season. Four or five boys performed the feat of skating to the city of Haverhill and back again in half a day, a distance of eighteen miles, stopping there two hours or more—pretty well for boys, the youngest being only eleven. Many obstructions have been removed from the river within six months, and the good work is to be continued this spring. Navigation will thus be

much improved and its blue waters will be parted by many vessels and boats.

There is much fear felt among us, that the canker worm has found its way across the river from West Newbury, where it has made fearful ravages in years past. Farmers that have tarred their trees or used printer's ink report the going up of the moth a number of days ago. Is it not very early?

The season is not quite far enough advanced to ascertain the prospect for fruit, but let us sincerely hope it will be good, and that the canker worm may be kept away from us, for it is a sad sight to see fair orchards blighted as by the scorching tongue of fire.

J. B. SAWYER.

West Amesbury, Mass., March 18, 1871.

CLUB-FOOT IN CABBAGE.

I wish to inquire whether there has been found anything that would prevent the small white maggot from eating the roots of cabbages, and thus cause them to clump-foot.

H. C. C.

Wareham, Mass., March 3, 1871.

REMARKS.—Mr. Henderson says in his book on "Gardening for Profit" that on land along the seashore where there is an admixture of oyster and other shells, cabbages are raised in the highest perfection, and that on such soils they have been raised, in some instances, for fifty consecutive years perfectly free from any club-foot. It is supposed that the lime in the soil resulting from the gradual decay of the shells, is fatal to the larvae of the insect which produces the disease in the roots of the cabbage. The same gentleman gives an experiment he made in growing cabbages on a lot, one-half of which was heavily manured with stable manure, the other half with flour of bone at the rate of 2000 pounds to the acre. On the manured part the cabbages were badly affected; on the part to which the flour of bone was applied the plants were healthy. He has also used lime. This was expensive and only partially successful. Cabbages should not be grown two years in succession on the same land. Leached ashes have also been recommended—a dressing "one inch thick" well spaded in. But we hope friend C. will not ask us to tell him where he is to look for the ashes, for we don't know. But these are among the things that "have been found" to prevent the club-foot, and we give them for what they are worth.

CATTLE EATING BOARDS.

Though not in the habit of writing for any paper, I will try to relate my experience with this trouble with cattle.

Some forty years ago I purchased a small farm of twenty acres that was badly worn out. It was part sandy, part swampy, with plenty of bushes. The pasture was plain land and bushy. I cut about four tons poor meadow hay. My cattle did well until I subdued the bushes in the pasture. Soon afterwards they commenced eating boards, &c., and became ravenous for pine boards. The barn was an old one, and some of the boards loose. These they would tear off with their horns, and chew them up. This continued till about eight years ago. At that time I bought a pasture of new land, including some ten acres of wood and about six acres of land from which the wood had been removed. A part of this lot was bushy and some of it was low, damp land, with wild grasses, and

many other kinds of grasses coming in on the new land, on which with the aid of the cattle I am trying to keep down the bushes. I find they eat the young shoots with great relish, and they have not troubled me since they had this range by eating boards. In the winter I feed clover and other hay, including water grasses, wheat, rye and oat straw, and corn stalks.

Hence I conclude that if cattle have a variety of feed summer and winter, and the browse of wood or sprout land they will not trouble any one by "eating up the barn."

M. L. GOODALE.

South Amherst, Mass., Feb. 27, 1871.

REMARKS.—The first effort of our correspondent is so successful,—his statement of facts so clear, and his conclusion so natural,—that we hope he will write out the "many things about farming" to which he alludes in a private note. We wish to make our columns a sort of Farmers' Exchange, or Club, where practical men can talk with their pens in the same every day, practical manner that they do with their lips when neighbor meets neighbor.

HOUSING CARTS AND WAGONS.

My object in stating how long my ox wagon had run, was to show the utility of housing carts and wagons used on the farm. As Mr. Denham has expressed the opinion that my wagon must have been housed most of the time, I will state how it has been used.

For the first thirty years it was used about one-half of the time when the ground was bare. At that time my cart wheels got worn out, and I had a set of new wheels made for the wagon that were four inches wide,—the first ones being five inches wide. Then I took the old hind wheels of the wagon for the cart, and the fore ones to draw timber and logs on, and have used them up to this time in heavier work than I did when they were on the wagon.

If Mr. Denham's wagons will not wear but fifteen years, they have poorer timber or poorer workmen in Plymouth County than we have in Essex, or the land on which they run must be different. I know of none in this vicinity that have worn out as soon as his did.

To have farm carriages last long the farm buildings must be on dry ground, and the carriages kept on a floor in an open shed protected from the sun and rain but not from the air. It is true that my wagon wheels have not been used every day, but one of the shrewdest old gentlemen in town, Moses Parker, Esq., told me that the wheels if used every day, and properly cared for, would last a hundred years.

E. ROLLINS.

Groveland, Mass., March 21, 1871.

CANADA STEERS.

The notice in your paper of a fine pair of steers raised by Mr. Swan, of Worcester, Mass., induces me to give you some account of a pair of steers raised by a Mr. Reed, a neighbor of mine who has a herd of high grade Short-horns. These steers were dropped July 19 and 20, 1868, weighing at their birth, respectively, 103 and 119 pounds. June 7, 1870, when less than two years old, they weighed 2840 pounds; September 8, they weighed 3160 lbs.; and on the 13th of the present month, 3556 pounds, and girthing 7 feet, when only two years and eight months old.

A SUBSCRIBER.

Uxterton, P. Q., March 16, 1871.

CATTLE EATING BOARDS.

Having seen ashes recommended for this trouble, and finding that my cattle had the habit this win-

ter, I put two or three handfuls of ashes in the manger of each cow occasionally, and let them eat as they please. It seems to have cured them of this habit.

P. S. PAINE.

East Hardwick, Vt., 1871.

SANFORD HOWARD, ESQ.

The death of this gentleman, which occurred at Lansing, Mich., March 9, was briefly noticed in our columns at that time. Few men were better known by the farmers of the Northern States than Mr. Howard. We are indebted to the Lansing *Republican* for the following facts in relation to his life and labors.

Mr. Howard was born in Easton, Mass., in 1805, where his only advantages of early education were those of the common school. He remained on his father's farm until 1830 when he married and removed to Hallowell, Me., to manage a farm for himself. In 1837 he removed to Lanesville, Ohio. Leaving Ohio in 1843, he became associated with the Albany *Cultivator*. In 1852 he became the agricultural editor of the Boston *Cultivator*. In 1864 he accepted the position of Secretary of the State Board of Agriculture of Michigan, which has the supervision of the agricultural college at Lansing, at which place he has resided since his removal to Michigan.

While in Maine he became a leading contributor to the Maine *Farmer*, and whether in Ohio, New York, Massachusetts, or Michigan his contributions to the leading agricultural papers were numerous, and always dignified and able.

In 1857 he was employed by the Massachusetts Society for the Promotion of Agriculture, and several wealthy gentlemen of that State, to go to England, Scotland, Ireland, and France, for the purpose of selecting and importing the best specimens of cattle and horses of several breeds. The next year he again crossed the Atlantic and purchased for H. H. Peters twenty or more Ayrshire cattle, the best that could be selected in that country. He also bought a small herd of Derry cattle in Ireland for A. W. Austin of West Roxbury, Mass., a Cleveland stallion for Dr. J. Woods, Richmond, Va., &c. During these trips he had the opportunity of examining the best stock in the old world, and, from this time to the close of his life, became a standard authority on blooded stock. In the winter following his return from Europe, he edited the first volume of the "American Devon Herd Book."

During his connection with the State Board of Agriculture of Michigan he has written and compiled the Annual Reports of the Board, and many of his papers have been widely quoted and highly commended. For several years, and up to the time of his death, he edited the Agricultural Department of the Lansing, Mich., *Republican* with signal ability. He has delivered several lectures before agricultural societies, and once lectured to the students of Yale College, upon horses.

One of the latest important labors of his life was

acting as chairman of the committee appointed by the New York State Agricultural Society, in 1870, at Utica, to decide upon the relative value of agricultural implements other than mowers and reapers. He was also a member of the committee of the U. S. Agricultural Society at the trial of mowers and reapers at Utica, in 1857, and served upon a similar committee of the N. Y., State Agricultural Society, at Auburn, in 1866.

His funeral services were held in the Hall of Representatives, and President Abbott of the Agricultural College pronounced a fitting eulogium of the moral and mental qualities of the deceased. He was alluded to as a man of great purity of soul and purpose, and one who possessed a high-toned religious faith and trust. The Michigan *Farmer* closes a notice of the death of Mr. Howard with the following sentence:—

Mild and quiet in manner, and studious in habit, he was not one that acquired wealth, and while he helped others and became interested in their labors; he was not selfish, and derived but little benefit from his labors beyond the satisfaction of knowing that he had aided in the increase of a correct knowledge of the practice and principles of agriculture, and that he had done something to render it a nobler pursuit than it was when he first entered upon its study.

SOWING FLOWER SEEDS.

A taste for the cultivation of flowers, both indoors and out, has been gradually increasing for several years past. Very many of the farm houses are now graced with the presence of cultivated flowers, as well as those of the villagers and city people. That they have a wholesome and refining influence, in many respects, none will doubt.

We cannot now, however, be enticed away by the charms of the subject from our purpose, which is to say what our experience has been in relation to the *sowing of seed for flowers*.

Quite one-half of all the flower seeds sown, we have no doubt, never come up. The reason for this is imputed to bad seed. No doubt but there is abundant reason for complaint on this score, but the disappointment arises as often from mistake in the manner of sowing as from all other causes combined. Most flower seeds are quite small, and consequently perish quickly if in ground which is too moist. On the other hand, if they lie too near the surface, and exposed to the direct rays of the sun, they soon lose their moisture, and with that their power of germination.

TIME OF SOWING.—This will depend in the first place upon the condition of the soil. There will be a difference in seasons of two weeks in this particular. The hardy annuals, such as asters, larkspur, clarkia, candytufts, &c., may be sown in April, during the first half of the month, some seasons, but generally with greater success during the last half of the month. The half hardy, such as will not bear a hard frost, as the balsam, marigold, cockscomb, &c., ought not to be sowed in the

open ground sooner than from the first to the last of May.

By observing these rules, we have succeeded in getting fine flowers of the tender annuals, such as the cypress vine, sensitive plant, ice plant, &c.

PREPARATION OF THE SOIL.—When this is sufficiently dry so as to fall to pieces upon being removed, dig it thoroughly, rake it and dig again, until no lumps remain, then pat the surface gently with the back of the spade, in order to press the particles together and to get a level surface for the seeds to fall upon.

SOWING.—Strew the seeds over the impression made by the spade, and then *sift fine soil* over them, to the depth of a sixteenth to an eighth of an inch, and gently press it down with the back of the spade.

MARKING.—Now split at the top the little pine sticks, four or five inches long, which you have prepared, place the paper from which the seeds were taken into the split, and the lower end of the stick into the centre of the spot where the seeds were sown. This will remain there as a record, until autumnal frosts have nipped the flowers, and there is no longer occasion for these sticks.

COVERING THE SEEDS.—Take a piece of paper a little larger than the space covered by the seeds, lay it over them and place a handful of earth on each corner, and the work is done. This will keep out the direct rays of the sun, prevent excessive evaporation, and also the rain from breaking up the even surface of the soil.

The coming of the seeds must be watched, and as the young plants grow up, the corners of the paper may be brought together a little, which will raise it in the centre, get it out of the way, and also admit light and air.

As the plants grow, the soil must be kept in a proper degree of moisture, and then an abundant crop of beautiful flowers may be expected.

Last year we planted some forty varieties of flower seeds, most of which were from the well known house of the Messrs. Hovey, of Boston. Out of about forty varieties, there were only three which did not come up.

NEW PUBLICATIONS.

MONEY IN THE GARDEN. A Vegetable Manual, prepared with a view to Economy and Profit. By P. T. Quinn, Practical Horticulturist. New York: The Tribune Association. 1871. 268 pages. Price \$1.50.

The unpopularity of book-farming is not chargeable entirely to the prejudices of practical men. Most of our early works on agriculture and horticulture were compiled by men who knew more about handling the pen than about real work, and it is not therefore strange that many of their suggestions and much of their advice should have been found impracticable by the man of toil and small means. As practical working men become book makers,—as our teachers tell us their own practice and detail their own methods, this prejudice against book-farming disappears.

The author of "Money in the Garden" is one

who, having made money by gardening, modestly proceeds to "put down in this volume things that he has learned from daily toil, and the wisdom of others." So far as we can judge from a hasty examination of the book we think he has "put down" a large amount of just that information which the less experienced gardener daily needs in the three departments of the kitchen-garden, the market-garden, and the field culture of root crops.

We are sorry the book has been published with no alphabetical index. Without such an index, a practical book is to us a most impracticable thing. For instance, we wished to see what Mr. Quinn had to say about "club-foot" and the new cabbage worm. No allusion to either was found in his four pages of "contents." We next try "cabbages, page 72." We glance over each paragraph on this page, on the next one, and so on, until after scanning twenty pages we find the old promise verified that "those who seek shall find," for on page 93 the *Anthomyia brassica*, an insect which causes the "club-foot," is described, and on page 95 the *Pieris rapae*.

WALLACE'S AMERICAN TROTTER REGISTER, containing all that is known of the Pedigrees of Trotting Horses, their Ancestors and Descendants. With a Record of all published Performances in which a Mile was Trotted or Paced in 2:40 or less, from the earliest Dates till the close of 1868. And a full Record of the Performances of 1869 and 1870. Giving complete Summaries of over Six Thousand Contests. With an Introductory Essay on the true Origin of the American Trotter. And a Set of Rules for the Government of all Trials of Speed. By J. H. Wallace, Compiler of Wallace's American Stud Book. New York: G. E. Woodward; Boston: A. Williams & Co. 1871. Large Octavo, 504 pages. Price \$5.

We have not found, in our examination of this volume, any reason to doubt that the author has performed all that he promises in his title page—a remark which, it will be seen by the foregoing copy of that page, is a full compliment to Mr. Wallace's work. Much space is gained by the use of small type, and a condensed tabular form. So much merit has been claimed for the "thoroughbred" that we were not prepared for the remark by Mr. Wallace that "In all my investigations of this subject I do not now recall a single instance of any respectable trotter having a clear and satisfactory thoroughbred pedigree." He does not however undervalue blood, and acknowledges that to a single family or rather to a single individual of the thoroughbreds we are indebted for the trotter. The volume contains seven illustrations of celebrated horses.

The friends of fast horses manifest a liberality in their specialty which it would be well for the breeders and friends of horses for work to imitate.

CHAMPLAIN VALLEY.—In addition to the advantages of a rich soil, the farmers and gardeners who occupy land near the broad lake enjoy a climate considerably modified by this body of water, both in respect to mildness and humidity. Considering its high latitude, the valley of Lake Champlain is peculiarly favorable to horticulture and fruit growing. At a meeting held in Burlington,

March 9, the Champlain Valley Horticultural Society was formed, embracing those parts of Vermont, New York and Canada which border this beautiful lake, and officers were elected.

President—L. M. Hagar, Burlington, Vt.
Vice Presidents—Wm. H. Bailey, Plattsburg, N. Y.; Mr. Watson, Phillipsburg, P. Q., and Dr. A. T. Woodward, Brandon, Vt.

Recording Secretary—R. J. White, Shelburne, Vt.
Corresponding Secretary—C. G. Pringle, Charlotte, Vt.

A Board of Trustees was also elected and a vote passed to hold the first exhibition at Burlington some time early in the fall of this year.

OFFICERS OF AG'L SOCIETIES.

NORTH FRANKLIN, ME., FARMERS' CLUB.—*Pres.*, Seward Dill, Phillips; *Sec.*, Henry P. Dill, Phillips.
WASHINGTON COUNTY, N. Y. *Pres.*, Berry Long; *Cor. Sec.*, Milo Ingalsbe, South Hartford.

PROFITABLE FARMING.—Charles A. Sylvester, Esq., the President of the Caledonia county, Vt., Agricultural Society, bought a farm in Barnet sixteen years ago for \$4000, having at that time a capital of \$3000. He has recently sold his farm for \$11,000, having at the same time over \$2400 worth of personal property—so says a correspondent of the *Vermont Farmer*.

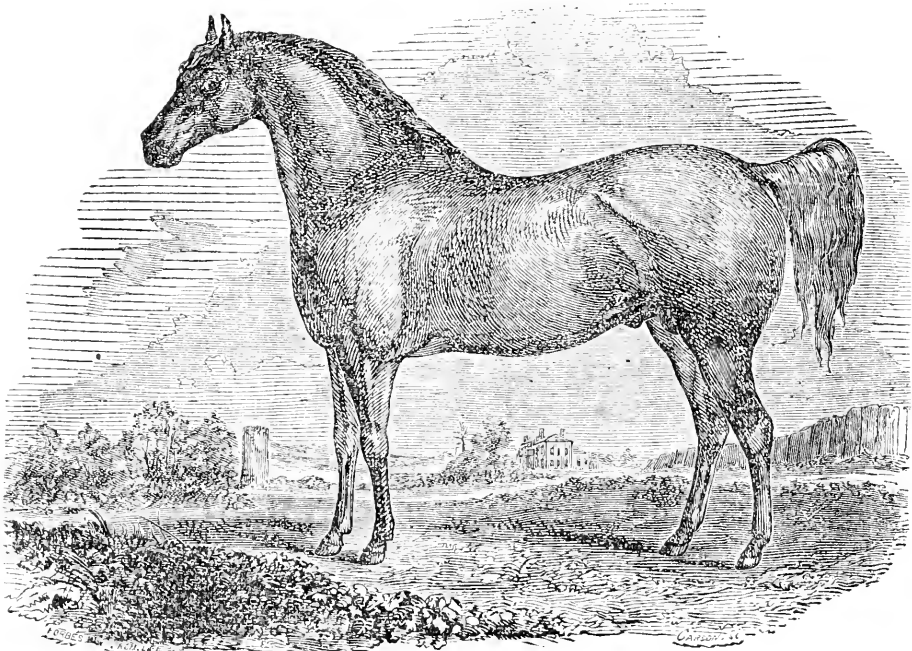
SHEEP IN IOWA.

I keep a thousand sheep on my farm. I am often asked if it pays to keep sheep. I think it pays as well as any thing I keep. The manure will pay alone. They will manure fifty acres well each year—twenty-five in summer and the other half in winter. Now, let us see if it will not pay. I calculate that fifty acres manured will produce in ten years one hundred or more bushels of corn per acre more than if not manured. That would make five thousand bushels in favor of manured land. At 25 cts. per bushel, this would be \$2550. This may seem large to some. Reduce it one-half and it pays twenty-five dollars an acre.

Five acres on which I yarded my sheep are rich enough to produce one thousand bushels of beets per acre, a total of five thousand bushels. One hundred acres of corn at fifty bushels per acre would produce five thousand bushels. Feed this to two hundred and fifty pigs, allowing twenty bushels each of corn and beets to each pig, and you ought to have a 300-pound hog, worth at present prices, \$22.50, or for the two hundred and fifty hogs, \$5625.00. Give the sheep credit for one-half of this, which will make \$2812.50. This may also appear large. Reduce it one-half, which will make \$1406.50 in favor of the sheep.

This is not all. I have two hundred fat wethers worth five dollars each—or will be next June, when I get the wool from them. Now what is the total in favor of the sheep? Four thousand two hundred and fifty dollars.

—J. D. Ellsworth, Bennington, Iowa, in *Iowa Homestead*.



THE MORGAN HORSE.

The Vermont Horse Stock Company having fixed on a location for their breeding and training establishment, are now ready to enter upon the work of improving the horses of the State. If they shall succeed in checking the acknowledged degeneracy which is seen in the late descendants of the Morgans and Black Hawks, the whole cost of the organization of the association will be realized many times over. This, however, is but a part of the purposes of the society. All that can be accomplished by the diffusion and combination of the best blood of the old and new world is to be attempted.

We have headed these remarks with what was considered a good likeness of one of the best representatives of the Morgan breed in its prime—the “Morgan Hunter.” He was bred by Mr. Exwell, of Springfield, Vt; was got by Gifford Morgan, dam by same horse. He, like so many other superior animals of this favorite family of horses, was sold to go out of the State. He was described as possessing in a remarkable degree, what Youatt lays down as the most im-

portant requisite in a stallion—*compactness*—“as much goodness and strength as possible, condensed in a little space.” His head is fine, and his eye large and brilliant; his chest capacious, barrel round, loin very broad, back short, quarters long and muscular, flanks deep and full, limbs short-jointed, flat, and sinewy. In temper and spirit, he exhibits the intelligence and docility which characterize most of his near relatives. Like the high-mettled Arabian, he unites the playfulness and good humor of a pet lamb with the courage and power of the war-horse, whose “neck is clothed with thunder”—“who rejoiceth in his strength,” and “mocketh at fear.”

For the New England Farmer.

POTATOES FOR STOCK.

I am somewhat of the opinion that the culture of roots in our country is rather on the decrease, and that it is not taking that place in farming which its advocates supposed it would ten or fifteen years since.

And this is owing mainly we think, to the high price of labor. Indeed few of us can really afford to pay from one and a half to two

dollars per day for weeding carrots, and there has not been and probably will not be very soon the Yankee born who can invent a machine that will discriminate between a weed and a carrot, so that for the present we shall have to content ourselves with the slow and tedious process of hand weeding.

In raising carrots (the best of all roots for stock purposes) this is indispensable, but in some of the other larger roots, as beets or turnips—the hoe can be used to a great extent, though the thinning will have to be almost wholly performed by the hand.

I think this may be to a great degree remedied by cultivating in their place some of the coarse, large yielding varieties of potatoes for stock feeding, as the California or Cuzco, where the culture can be performed in a great degree by horse labor, as we now have hoeing and hilling machines which perform their work quite satisfactorily. Where the soil is of sufficient strength they should be put in drills 3½ or 4 feet apart using plenty of good compost in the drills and pieces of three eyes put in 15 inches apart from each other. If pains are taken at the planting to get the drills even and regular, the cultivator and hoe can be run very close to the plants, and little or often no hand hoeing will be required. In this way if a good crop is secured, potatoes can be raised and put up for from 10 to 20 cts. per bushel, and are, for feeding purposes, in my opinion worth more than any other roots, unless it be carrots, as they possess a larger amount of starch than any other. Of the varieties named, with fair soil and good cultivation, from two to 300 bushels per acre can be expected, which is at least about one-half what may be realized from a crop of carrots, and with probably one-half the cost per bushel. The conclusion arrived at therefore is, that it may be policy where labor is high to raise the 250 bushels of potatoes rather than double that quantity of other roots. This, however, is a matter for each one to judge for himself. What may prove best for one, may not for another who is differently situated as to help.

W. J. PETTER.

Salisbury, Conn., Feb. 4, 1871.

For the New England Farmer.

SEED CORN FOR PLANTING.

As the season is now rapidly approaching in which the farmer will be engaged in planting this valuable product, it is of the utmost importance that proper seed should be used, as no doubt successful culture largely depends thereon.

Several conditions are very desirable in the raising of corn, besides thorough pulverization and manuring of the soil. It is desirable, in the first place, that the variety used be so early as to be fully ripened before the approach of early frosts. It is also desirable that it be of the most prolific kind, that the greatest possible quantity may be obtained from a given

surface cultivated. To secure this a judicious selection of seed is important.

It is often noticed that a single stalk of corn contains two and sometimes three good sized ears, and even more are found occasionally. If, then, as is generally believed, the corn takes the nature of the parent stalk, it is very clear that the chance for a superior crop, other things being equal, will be much greater if the seed is taken from ears that were duplicated upon a stalk, than if taken from an ear which was the only one upon a stalk. The same rule also applies to the earliness of the crop; this can to a certain degree be regulated in the selection of the seed.

There is also a belief prevalent to some extent that the quantity of corn raised depends to some degree upon the portion of the ear from which the corn is taken. Considerable experimenting may be necessary to settle this question satisfactorily. The following is given as so much testimony on the question, in the hope that experiments will be instituted and the different experiences be related through the public press.

Nine hills were planted, three from the large end of the ear, three from the middle, and three from the small end,—the manuring and cultivation being the same in each case,—and the result was as follows:—

3 hills, seed from large end of ear	2 lbs.
3 " " " middle of ear	1 lb. 12 ozs.
3 " " " small end of ear	2 lbs. 4 ozs.

Again, carrying the experiment still further with thirty hills, the result obtained was as follows:—

	Stalks, Corn.		Total.
	lbs. oz.	lbs. oz.	lbs. oz.
10 hills, seed from large end of ear, 14	4	12	8 26 12
10 " " " middle of ear, 14	14	14	12 26 14
10 " " " small end of ear, 18	13	8	31 8

From which it would appear that the superiority in each case is from the seed from the small end of the ear. Now, allowing 4000 hills to the acre, the difference in favor of the small end over the middle would be ten bushels, and over the large end seven bushels. The seed from the small end of the ear, on an acre would produce 1250 pounds more of stalks than the middle, and 1500 pounds more than the large end. If this fact can be established to the satisfaction of farmers, it of course would be a matter of profit, for taking an average of the two excesses and we have a gain of 8½ bushels of corn and 1375 pounds of fodder on an acre, which, upon four or five acres, would give a handsome profit without any additional outlay, and no extra labor except in the handling of an extra number of ears of corn in shelling for seed, in consequence of the rejection of a large portion of the ear. Are these things so? W. H. Y.

Connecticut, 1871.

REMARKS.—An experiment was made in 1858 on the farm of the Reform School at

Westborough, Mass., to test the old question whether seed from one part of the cob was better than that from other parts. An acre was planted in alternate rows with seed taken from the butts, the middle and the tips of the ears. Secretary Flint gives the result of this experiment in his Report for 1858. Estimating the sound corn at one cent a pound, the soft at half a cent a pound and the stover at seven dollars a ton, he presents the following comparison:—

	Sound corn.	Soft corn.	Stover.	Value.
Seed from butts . . .	738 lbs.	77 lbs.	1360 lbs.	\$12 53
“ “ middle, 663 “	164 “	1290 “	11 96	
“ “ tips, . . . 747 “	53 “	1320 “	12 36	

The butts produced the most, the tips next, and the middles the least money value.

The tips produced the most, the butts next, and the middles the least sound corn.

The middles produced the most, the butts next, and the tips the least soft corn.

Secretary Flint remarks, “It is difficult to determine, by this experiment, from what part of the ear the seed should be taken. Probably a mixture of the grains of the whole ear, being most natural, would be the best.”

For the New England Farmer.

SAVING AND APPLYING MANURE.

There are no questions that so deeply interest farmers as those which relate to the best mode of obtaining and the most proper manner of applying manure. By manure, I mean to embrace all fertilizers in common use, of whatever name or nature. These questions enlist the thoughts and pens of all our most prominent agriculturists and our agricultural teachers.

Numerous and careful experiments have been tested for the purpose of ascertaining what combinations of manure are the best for given crops, and how it is to be applied to accomplish the best results. Notwithstanding all these experiments, most farmers are still groping their way in the dark, so far as their individual practice or their expressed opinions at their gatherings or through the press are an indication.

I suppose it is impossible to lay down rules that will, under all circumstances of the soil and the seasons, be everywhere and always applicable; yet there are two fundamental ones that under any circumstances cannot with prudence be discarded.

The utmost exertion of every farmer should be given to obtain all the manure he possibly can, and in the best possible condition to nourish the crops he proposes to feed with it. In all the older States of our country the average of our crops has been decreasing per acre for many years past. This fact is sufficient to

awaken anxious inquiry as to where it is to stop. That it *should* stop, and soon too, there is no doubt. We have no right to rob the coming generations of their birthright. To put a stop to this robbery we ought to feed our crops more bountifully. We should accumulate all the manure we can. Everything we can make subserve as food for our crops should be devoted to that end. Not only this, but all our manure should be so thoroughly disintegrated as to be in a condition for being absorbed by the roots of growing plants that are to be fed with it. Great waste often occurs from the neglect of doing this, especially in dry seasons. Not only is this a waste of the manure, but a failure to secure as remunerative crops from its application as we might, did we rigidly adhere to thoroughly pulverizing it before using.

The mode of applying manure is also a matter of moment. Some contend for surface application, while others adopt the opposite practice and put all their manure under the surface. All will admit that the character of the seasons in a great degree modify both of these practices; a wet season favoring the first, while a dry one favors the last. Over a large portion of our country the drought was very severe the past season. Coarse manure on the surface was of little worth to growing crops, save as a mulch.

I saw a large field of corn manured with coarse, lumpy manure in large quantities and of great strength. The lumps dried up and were laying undecomposed over the field at harvest time. Of course but little benefit to the corn was derived from it, and much loss resulted in the value of the manure for succeeding crops.

I am aware of the claim that the soil will *absorb* about all the fertilizing elements of manure in ordinary wet seasons; yet I think it must be conceded that when dry seasons occur, it is best to be on the sure side and incorporate it with the soil, thus making the absorption doubly sure. The incorporation should be uniform, so that the roots of the growing crop must of necessity come in contact with it, strike out in whatever direction they may. Only by observing this method can we hope to obtain the full benefit of the application.

Our market gardeners have learned the importance of thus thoroughly mixing their manures with the soil, by their increased profits,—not only from increase of crops, but from *earlier* maturity. The crop has the food always at hand and does not have to seek for it in isolated places and in undigested masses.

I am aware that the cost of labor comes in to modify in some measure the carrying out of the suggestions I have made, and that every farmer should take that into account, and not blindly expend more time and money in preparing his soil and manure for a crop and in the care of it, than it will return to him in cash when disposed of.

If manure is mostly made on the farm, and is either under sheds or in the cellar, rainy days can be profitably used in turning it over and fining it ready for use. I have often with an iron bar put holes down in the manure where hogs were kept, and dropped in a little corn. The hogs soon learn the trick of rooting it out, and will often go over the whole mass thoroughly, thus saving much labor in preparing it for future use. K. O.

March 25, 1871.

COMPUTING DRESSED WEIGHT.—The rule for computing the dressed weight, by measurement, of cattle, hogs, and sheep, is this:—Ascertain the girth in inches back of the shoulders, and the length in inches from the straight or square of the buttocks to a point even with the shoulder blade. Multiply the girth by the length, and divide the product by 144 for the superficial feet, and then multiply the superficial feet by one of the following numbers for animals of different girths, and the product will be the number of pounds of beef, pork, or mutton in the four quarters of the animal.

For cattle of a girth from 5 to 7 feet, allow 23 pounds to the superficial foot; of a girth of from 7 to 9 feet, allow 31 pounds; of a girth of 3 to 5 feet, 16 pounds.

For sheep, hogs or pigs, calves, etc., measuring less than 3 feet girth, allow 11 pounds to the superficial foot.

Here is an example which will illustrate the rule:—A hog girths 3 feet 3 inches, and its length (as above) is 2 feet 8 inches—39 inches girth, multiplied by the length 32 inches, gives 1,248 inches. To obtain the superficial feet, divide by 144, giving 8 2-3, which multiplied by 16 (the number of pounds allowed to the superficial foot for animals of this size), gives as the weight, 138 2-3 pounds.—*Western Rural*.

SPROUTING POTATOES.—Sprouting white potatoes will advance the crop two weeks. They should be cut so that about two eyes are allowed to each piece, and these should be planted in hot-beds with very thin covering of soil; or it is better to plant in boxes and set these in a hot bed, so that after they are properly sprouted they can be at once carried to the place of planting. If the nights should be anyway cold, protect with thin covering of straw when the plants make their appearance above ground. Some persons who want a large quantity sprouted, cut the potatoes as desired, and spread them on boards, boxes or crates, in a dark place, and when sprouted, say from an inch to an inch and a half, expose them to the light, moistening two or three times a week with tepid water. They should be planted out so that there is not more than two inches of soil over the top of the sprouts.—*Germantown Telegraph*.

"JONES."

The following little story, with its moral, though written for the Macon, Georgia, *Telegraph*, is quite too good to be enjoyed by the farmers of the South alone.

I knew a man, and he lived in Jones,—
Which Jones is a county of red hills and stones,—
And he lived pretty much by getting of loans,
And his mules were nothing but skin and bones,
And his hogs were flat as his corn-bread ponee,
And he had 'bout a thousand acres of land.

This man—and his name it was also Jones—
He swore that he'd leave them old red hills and stones,
For he couldn't make nothin' but yellowish cotton,
And little of that, and his fences were rotten,
And what little corn he had, *that* was boughten,
And he couldn't get a living from the land.

And the longer he swore the madder he got,
And he rose and he walked to the stable lot,
And he hollered to Tom to come there and hitch,
For to emigrate somewhere where land was rich,
And to quit raising cock-burs, thistles and sich,
And wasting their time on barren land.

So him and Tom they hitched up the mules,
Protesting that folks were mighty big fools,
That 'ud stay in Georgia their lifetime out,
Jest scratching a living, when all of them mought
Get places in Texas where cotton would sprout
By the time you could plant it in the land.

And he drove by a house where a man named Brown
Was living, not far from the edge of the town,
And he bantered Brown for to buy his place,
And said that seeing as money was scarce,
And seeing as sheriffs were hard to face,
Two dollars an acre would get the land.

They closed at a dollar and fifty cents,
And Jones he bought him a wagon and tents,
And loaded his corn, and his women, and truck,
And moved to Texas, which it took
His entire pile, with the best of luck,
To get there and get him a little land.

But Brown moved out on the old Jones' farm,
And he rolled up his breeches and bared his arm,
And he picked all the rocks from off'n the ground,
And he rooted it up and ploughed it down,
And sowed his corn and wheat in the land.

Five years glid by, and Brown, one day,
(Who had got so fat that he wouldn't weigh,)
Was a sitting down, sorter lazily,
To the bulleest dinner you ever see,
When one of the children jumped on his knee
And says, "yan's Jones, which you bought his land."

And there was Jones, standing out at the fence,
And he hadn't no wagon, nor mules, nor tents,
For he had left Texas afoot and come
To Georgia to see if he couldn't get some
Employment, and he was looking as hum-
ble as if he had never owned any land.

But Brown he asked him in, and he set
Him down to his victuals smoking hot,
And when he had filled himself and the floor
Brown looked at him sharp and rose and swore
That "whether men's land was rich or poor,
There was more in the *man* than there was in the land."

S. L.

—To encourage the growth of forest trees at the West, Mr. N. S. French, of Carroll County, Ill., states in the *Prairie Farmer* that he has this winter cut down a cottonwood tree twenty-nine years old that measured thirty-seven inches in diameter at the stump, and furnished two logs of about 300 feet, log measure, and nearly or quite a cord of wood. It grew in his barn yard.

SHEEP HUSBANDRY.



o MUCH was said a few years ago in relation to this branch of New England farming, and so great a revolution in it suddenly took place, that those persons who are not engaged in it may suppose that the culture of sheep has been nearly abandoned. Such, however, is not the case.

Some 30,000,000 to 40,000,000 of sheep are still in the country, and a fair portion of them in the New England States. The interest in their culture is still an important one in Maine, Vermont and New Hampshire.

The light hay crop of last summer may induce some to resort to a poorer quality of fodder for the sheep. Empty scaffolds, and decreasing bays may suggest this. The policy would be a poor one, and ought to lead to the question,

What is the effect of Food on the Wool?

The character of the food has much to do not only in the production of good sheep and good lambs, but also in the production of wool. A leading object in raising wool should be to *keep the staple even through its entire length*, and this can be done only by feeding regularly both in quality and quantity. If sheep have been fed upon sweet, nutritious hay, with occasional feeds of grain and roots, and then followed for many weeks by hay of a poor quality and the roots and grain denied them, an inequality in the wool will be produced,—the upper part of the staple will be light, and the lower part much thicker; in this case the top part of the staple will break off in working it up. So it is impossible to produce good wool upon pastures abounding only in coarse, wild grasses. Good bred sheep should never be turned upon such lands, for whatever the care of breeding may be, the coarseness of the feed will produce inferior wool.

In common with many other animals—including man himself—there is always exuding from the skin of the sheep an oily substance called yolk, or gum, especially designed by nature to protect the animal from too much moisture, and to soften the wool. This oil

is feebly supplied by old sheep and those fed on meadow hay or other coarse fodder, and is more abundant in vigorous and well-fed sheep. This is an important secretion, and can only be supplied by generous keeping and proper care. If these are lacking, the secretions will not take place in sufficient quantity, and sheep, lambs and wool will be seriously affected; especially is this the case, when sudden changes occur from good feed to bad. Great care, however, should be observed, that not too much of this oil is excited, as it then wastes the powers of the sheep, and becomes expensive to the manufacturer to remove it.

Wool is composed of the best flesh-producing substances found in the vegetable kingdom. The animal has no power to change the character of those substances, and the composition of the same kind of grass is materially varied by the soil upon which it is grown; hence the character of the soil has much to do with modifying the character of wool.

It has long been known that wool raised upon calcareous or limy soils is dry and harsh, while that raised upon argillaceous, or clayey soils, is soft and mellow; cultivation will materially modify this fact.

The black-faced, heath breed, raised upon the uncultivated moors of England, produce a short, coarse, harsh wool; but this is greatly improved when the same breed is raised where the land is cultivated, though the soil is the same, a fence only separating the two. On the other hand, if the highest bred long woolled sheep are allowed to run upon the moors, the wool quickly degenerates, and soon becomes wild and harsh, like the low bred type.

We may learn from these facts that the food of the sheep modifies the character of the wool, and that we cannot have good wool from poor feed. The higher the type of sheep, the higher must be the character of the wool. We cannot escape this law. If we give poor feed, we shall have poor wool and light fleeces; if good feed, large animals, large lambs, good wool and a generous quantity.

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For the New England Farmer.

THE GARDEN IN MAY.

"Beautiful is spring—cheerful, bright spring,
Enlivening scenery; mild pleasant weather—
The face of creation, each created thing,
To praise the Creator, uniting together."

Again returns the season of busy out-door operations in the garden; and if we expect or desire to have a good garden we must be up and doing,—take old Father Time by the forelock, and *lead* him through the season. Gardening is not only an innocent, healthy and profitable occupation, but was the primitive employment of the *first man*; and we find among his descendants that the *first men* have always been attached to that occupation. A good garden, to the farmer, of all other persons, is the most profitable, and of all others they ought not to grudge the necessary labor and time, as it may be done at odd intervals.

The first act in out-door operations, is the preparation of the garden soil to receive the seed, by manuring and ploughing. In order to insure rapid germination, growth and maturity, too much pains cannot be taken in fertilizing, mixing, fining and deepening the soil, as the finer and more intermixed the soil and the manure, the better the plant food is imparted to growing plants, the more rapid their growth, and the sooner they mature, containing much greater succulence, tenderness and nutrition, than in poorly prepared soil.

But the first essential of all towards a good garden is *good seed*—thoroughbred seed. In some kinds of seed there is little opportunity for deception or mistake; but in others there is every chance, and little to guide in the choice. If you do not grow and save such yourself, you should buy only of the most careful, reliable growers, or dealers, and even such men may be deceived, where they do not produce all the seed they sell. There are many contingencies regarding seed, such as genuineness, soundness, &c., any one of which wanting will often defeat our anticipations.

ASPARAGUS.—The beds should now be yielding their best; and cutting should be in a regular successive order. As the shoots rise to the height of two, three, four or five inches, at most, above the surface, while the bud remains close and plump, they are in the best condition. Cut them off below the surface with a suitable knife, running the knife nearly straight down close beside the shoot, cutting off with a sloping cut, being careful not to wound the crowns or advancing buds. In new beds, cut only the largest and strongest shoots. Old established beds may be cut from as fast as the shoots attain suitable size, and clean through the month.

BEANS.—*Dwarf.*—Plant in rows $2\frac{1}{2}$ feet apart, dropping the seed two to three inches apart in the drill; cover two inches deep. *Pole or Running.*—These should not be

planted till danger of late frosts are past, as they are more difficult of protection than the *Dwarfs*. Make the hills 3 1-2 to four feet apart, each way; put a shovel full of well rotted manure, compost, in each hill, cover one inch and set a pole, rising six feet, firmly in the centre of each hill, and drop six or eight beans, in a circle four or five inches away from the pole, cover one inch deep, except limas, these be particular to stick eyes down and cover so the top of the beans will have only half an inch of fine soil over them: if the soil crusts hard, break and pulverize so the plants can get up.

BEETS.—A deep, rich sand, dry and light, rather than moist, is the soil the beet delights in. Sow in drills sixteen inches apart, dropping the seed one inch apart to be thinned when up. The sooner the seed is put in after the ground will work well in spring, the better.

BRUSSELS SPROUTS.—Sow seeds in a rich, well prepared seed bed; drills ten inches apart best.

CABBAGE.—Sow seed in seed beds for medium and later crops; transplant early plants, for the early crop; salt, lime and ashes are good, worked into the surface on well enriched mellow soil, for the cabbage. Set the roots deep, half or two thirds the length of stem down.

CARROTS.—A light, mellow, rich soil, considerable sandy, and deeply worked is essential for a *good* crop of carrots; sow in drills, across four foot beds, twelve inches apart.

CAULIFLOWERS.—Transplant early, into rich, early, mellow soil 2 1-2 feet apart each way.

CELERY.—Seed may be still sown in beds of light mellow soil, and lightly covered.

CORIANDER.—Sow seed in twelve inch drills, in beds of sandy loam.

CRESS.—Sow seed in beds of fine mellow soil, well prepared, in drills six to eight inches apart.

CUCUMBERS.—Early cucumbers require a warm rich soil, somewhat sheltered from cold winds, etc. Prepare the hills $4\frac{1}{2}$ or five feet apart, by excavating a hole two feet across and six inches deep; put in half a bushel of good strong compost hog pen manure, cover one inch with fine soil, and scatter a dozen seed thereon, covering half an inch. Plants started in the hot-bed may be transferred into such hills after frosts are past.

EGG-PLANTS.—Near the last of the month, plants may be taken from the hot-bed and set in rich, warm soil, two and one-half feet apart.

LETTUCE.—Sow seed in eight inch drills across four feet wide beds, when the plants grow to the size of three or four inches across, transplant into rich soil, ten inches apart each way.

MELONS.—Watermelon, Citron, and Nutmeg melon seed, may be planted in warm sandy soil, well exposed to the sun, in hills prepared as for cucumbers; watermelons six

feet. Citron and Nutmeg same distance as cucumbers; cover the seed one inch with fine soil.

MUSTARD.—All good farmer's wives understand the value of mustard, both the seed for condiment, medicinal and other purposes, and the young plants for greens. Sow in drills six inches apart.

ONIONS.—Seed may be sown the first of the month, in rich, moist sandy loam. Set out rareripe, potato, and top onions, if not already done. For seed, set perfect bulbs, six to ten inches apart.

PARSNIPS.—Seed of last season's growth is best and surest. Sow in deep-worked, rich soil, in drills sixteen inches apart, dropping the seed two inches apart to be thinned to six inches.

PEAS.—Make successive sowings of early varieties; sow tall growing, and Marrowfats, in double rows, four feet apart; put up neatly prepared bushes as soon as the plants are 2 to 3 inches high.

PEPPER.—Sow seed of the Cayenne and long Red in soil enriched with hen manure. Sow in drills one foot apart to be thinned to six inches in the row.

POTATOES.—Plant the Early Rose in drills 2 1-2 feet apart and half foot in the drill, give to each hill four quarts of well decomposed compost, or a pint of ashes, with a little salt.

RADISH.—Make successive sowings in light, mellow, rich soil, deeply worked.

RHUBARB.—Old stools may be divided and reset in rich, moist soil. Cut out all seed stalks soon as they show; pull, not cut, the leaves and stems with a sideways jerk, when desired.

SAGE.—Old roots may be divided or seed sown in good rich soil if new beds are desired. Give established beds a good dressing of well rotted manure, and work in around the roots of plants.

SALSIFY, OR OYSTER PLANT.—Plant and treat same as directed for the parsnip.

SPINACH, OR SPINAGE.—Sow the round-leaved variety in rich quick soil, stirring it frequently after the plants are up, as it depends for its goodness and succulence on the rapidity and quickness with which it grows. Sow in beds, broadcast, or in drills.

SQUASH.—Plant the summer varieties same as cucumbers. Fall and winter kinds will need more space, but same general treatment in planting; five or six seeds are sufficient to a hill.

STRAWBERRIES.—See that the strawberry worm, *Cyclocephala immaculata*, Oliv.—do not get on the vines to destroy the crop and vines. Hand picking is a slow process, but sure.

TYHME.—Sow seed in beds or borders of light fine soil, covering lightly.

TOMATOES.—Plants started in the hot-bed or in boxes in the house, may be set in the open ground the last of the month. A flower pot or box is convenient to cover them cool

nights, and also after transplanted, till established.

W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

TOP DRESSING vs. PLOUGHING UNDER.—No. 3.

Another example of considerable magnitude furnished by nature, proving that manure does not, to any considerable extent, pass into the atmosphere in the form of vapor or gas, is found in the guano districts where this deposit has accumulated for ages and is regarded as one of the best fertilizers known. It has been exposed to atmospheric action, rains and thermal influences; yet it is so rich in the elements of plant food that manufacturers of artificial fertilizers esteem it a sufficient recommendation for their goods if the public can be made to believe them "equal to the best Peruvian guano." If manure is principally lost in the atmosphere, this deposit should not be worth the transport of half a dozen miles.

Different soils require different treatment in some respects; yet I cannot understand why, if it is a general law that manure goes up, or the reverse—or that it goes both ways—that this law should not be universal. The retentive capacity of some soils is much greater than others, owing to a compact sub-soil; hence such lands are among the most valuable to the farmer. The soil in this and the surrounding towns is generally of this description. It is deep, and under good cultivation produces large crops of grass, oats, barley and potatoes. Indian corn is not grown largely, the crops above named being deemed the most profitable; yet it is not uncommon to see small pieces under good management yielding fifty bushels per acre.

In the spring of 1869 I had a piece of land to seed down that had been planted with potatoes two years and manured sparingly—the soil was deep and humid above the average, and rather tenacious. As is my custom, it was manured upon the surface, so that the land was nearly out of sight. The yield of oats was large and the catch of grass all that could be desired, covering the ground at reaping time with a thick coat six or eight inches in length and hiding the land from view. The prospect of a large yield of grass the next year was fully realized. Notwithstanding the drought of 1870 the first crop was very heavy, as large as could be dried upon the ground in two of the hottest days, with close attention. A second crop followed, about half as large, though during the interim the fall of rain was light. The yield per acre I am unable to give; but the crops of those two years I have seldom seen equalled. The prospect at this writing of another large crop is very good.

Now I contend that this manure is exactly

where it should be to insure the best results, and worth as much to me as fifty per cent. more would be six or eight inches below the surface. The harrow will pulverize and mingle manure with surface soil to a depth to facilitate decomposition; the moisture thus found will liquify its soluble particles while the little spongioles draw nourishment from the bonniti-supply near at hand.

It would be amusing to see farmers who plough their manure under through fear that it will go skyward like a balloon charged with hydrogen gas, top dressing grass lands; yet such an anomaly is common. It is pretty well settled that this is an excellent method of increasing the grass crops; and there are very few good farmers at the present day who make grass a specialty who omit it. Were I to increase the grass crop upon a farm adapted to it to the greatest extent in the shortest time, it would be by ploughing little and spreading well rotted manure upon the grass. Ashes also are valuable upon some grass lands; upon others worth but little. The extremes of very wet and very dry land should be avoided—at least this is my experience.

Several years ago a small piece was ashed in spring liberally; the crop that year was considerably enlarged; the next year I judge it cut two tons per acre, where before it cut from five to ten hundred, and patches of moss that had held possession for several years had gone.

A large manure heap is indispensable to profitable farming; large hay crops insure the manure heap. To increase both without resorting to artificial fertilizers, plough less, top dress the grass, and grain lands at seeding time; and as the hay increases, furnish mouths to consume it. Spring in some respects is a favorable time to treat grass lands; rains are often more frequent than in fall, and if done early and well the scythe will meet with little obstruction. C.

Wilmington, Vt., 1871.

For the New England Farmer.

GARDENING FOR MAY.

May, sweet May, greeted by Spenser as—

"The fairest maid on ground,
Deck'd with all dainties of her season's pride,
And throwing flowers out of her lap around,"

is now with us, and will soon unfold the abundant riches of nature. The tender green of the fresh, young leaves is indescribably beautiful, and the flowers of this month are of delicate texture, and most exquisitely tinted. The host of summer birds have all returned, and the woods are melodious with their varied song.

May was a merry month in the olden time. The ancient English loved all customs that contributed to happiness, and wealth and poverty often met on May-day, on the same equal footing. The lord of the soil gave the tallest tree

upon his estate for the May-pole, and the lowliest laborer danced around it with a light heart.

May-day is celebrated in many parts of our country, and though the gatherings are more select than in times of yore, yet this month is fraught with a blessing to every heart. Its bright sunny days invite us all to come forth and enjoy them. A writer says:

"I know not how it is with others, but to me the spring's invitations are irresistible. I may be scholarly inclined, and my task indoors delightful, yet my garden claims me, monopolizes all my morning hours, and I know for me has come the season's summons which I shall not set aside,—no, not for studies nor hospitalities which become rivals for my time and attention. My garden waits—is the civiler host, the better entertainer. Then I have a religion in this business, and others must waive compliments. Would the sun but shine all night long for my work to continue!"

Thus speaks a lover of gardening, and all of us who possess the true spirit will indorse his sentiments.

Gardening is peculiarly adapted to women—it offers to them recreation and pleasure, far more than they can realize until they have commenced operations.

The love for cultivating both flowers and vegetables is greatly on the increase—and many ladies wholly superintend both flower and vegetable gardens. We can plant peas as well as petunias, and enjoy seeing them flower and fruit. To be sure I prefer to have the beds dug over for me, and the trenches prepared full six inches in depth, then the seed can be easily dropped in. Beans, beets, spinach, &c., can all be planted by women's hands, and by employing a small boy to keep down the weeds, many delicious dishes can be procured for the table.

Farmers, as a general rule, neglect the kitchen garden, and deprive themselves of many comforts; and if they do attend to it, it is not planted until all the crops are in, and then receives but little attention. But if the wife and daughters of the house can take it in hand, they will be very proud of their handiwork. May is the month to cultivate a fondness for the occupation. If the season is backward flower seeds can be planted in the house, and their blossoming will be hastened by several weeks.

If a few friends club together, they can purchase seeds and plants at a large discount. \$5 will purchase to the amount of \$6.25, and by exchanging plants or seeds, a great variety is procured at but a slight expense. Five ladies for \$1 each, can buy a goodly supply, and there is always a charm in wholesale purchases. Plants are now sent by mail with perfect satisfaction. The Innisfallen Greenhouses offer every inducement to purchasers by sending plants by mail at a very cheap rate. Fifty bedding-out plants of rare varieties, are

sent post-paid, for \$6. So that ladies by clubbing together could supply their borders at a great reduction of the usual prices.

The custom of distributing seeds, bulbs and plants by mail, is rapidly increasing in favor among all florists, and is decidedly the most advantageous for purchasers, who thus avoid heavy express charges, which added materially to the expense, and deterred many from ordering plants.

In many localities in New England the seasons are so backward that tender annuals will not blossom early enough to show forth their full perfection, unless they are raised in the house or in a hot bed. A sunny kitchen window is very excellent for their culture.

Asters, Balsams, Zinnias, Petunias and Pansies all do much better for being planted early in this month, and then transplanted into beds or borders after all danger of frosts is past. Being fibrous-rooted plants, their strength is increased by the transplanting, and experienced gardeners often transplant them into small pots before the final planting for summer blooming.

We have given many directions, heretofore, how to plant seeds, but will repeat a few of them. The soil must be well pulverized, and the best way is to bake it in the oven; this will kill all larvæ of insects, and destroy the seeds of weeds. Mix a goodly quantity of sand with the earth, thus making it warm and friable, and not liable to bake down, and prevent the germination of the seeds.

Nearly all the complaints from amateur cultivators of bad seed are owing to their ignorance of their culture. It is the seedsman's interest to send out good seed, else he would ruin his trade. His is not the fault of your non-success.

Tiny seeds should be mixed with sand, and sprinkled lightly over the prepared soil. Petunias, Portulacas, &c., cannot germinate under quarter of an inch of soil. They are so minute that they require the slightest possible covering. Sweet Peas, Lupins, Balsams, and all good sized seeds require an inch or so of soil, and the former flourish better under four or five inches. Asters, Stocks, &c., will germinate more quickly under quarter of an inch of earth. Verbena seeds are slow to germinate—often from three to four weeks will pass before they show their heads. If soaked over night in water they come up better.

If cigar or raisin boxes are used to plant the seeds, they can be divided off into sections with strips of pasteboard, cutting through the edges of the strips that run across, to let in the side strips. Put the skeleton boxes thus made into the wooden box; fill up with the baked loam while warm to the hand and let the edges of the pasteboard come above the level of the box. Write the names of the seeds on little sticks, so that when the plant is in bloom you can know its cognomen, and not be obliged to say "that red flower—this

blue one, and the other yellow one." Press the earth firmly upon the seeds with the fingers; cover the whole box with a thick piece of old flannel well wet with warm water, and *always* water the seeds through it until they have sprouted. If the seeds are of greenhouse varieties, keep the flannel over, by cutting small holes for the tiny seedlings until all have come up, then remove it altogether. Panes of glass fitting tightly to the boxes, will do as well after the first two or three days, but thick flannel, if kept wet all the time, supplies heat and moisture which are both so essential to plant life.

Great care must be taken not to keep the young plants too warm, and cause them to spindle up and look like potatoes grown down cellar. In this fickle month we are liable to severe frosts, and we must also guard against the chilling of their tender life.

If the night is cold, either remove the boxes from the windows, or cover them with several thicknesses of newspaper which will protect them. After the fourth and fifth leaves appear it is well to plant them in two inch pots, this will cause them to strike deeper root, and give them more life. Hot-beds are a very desirable adjunct to every northern household, and are so easily constructed that the marvel is that every owner of a garden does not possess one. A large dry goods box will furnish the frame by sawing off the sides a foot or more, leaving the back of the boxes at least eight inches higher than the front, and having the sides planed off in a regular slope, sink it two feet in the ground. Fill up one foot with fermenting horse manure,—if this cannot be obtained decaying leaves will do; for if the plants are well established first in the house, they will not suffer for want of bottom heat. Place over the whole a window-sash which will fit tightly. If a new one is needful, have it made without side strips of wood, and lap the panes one over the other. This gives better light, and is less expensive. The sash can be fastened to the back of the box with heavy, iron hinges which can be raised up easily. Sand should be plentifully scattered over the whole surface. In such a hot-bed, costing but a small sum, many plants could be raised, cuttings struck, and tomatoes and melons started. Permanent hot-beds are much more expensive, draw more largely upon the contents of our purses, and to those of us who possess but little of the *root of all evil*, (though we think many good things spring from that same evil root,) the dry goods box offers a pleasant pastime, and an abundance of good things. In another article, we will speak of bedding out plants, *nomen est legio*! Yearly they increase in beauty and variety.

We trust that we shall inspire all our readers with a love for flowers, and induce many of them to undertake their culture. They are fraught with a blessing to many a heart, and

the occupation they offer to us is exceedingly healthful. In all countries women love flowers, and are engaged in their culture. A farm house without them is bare indeed—bereft of its chief glory. Those who have travelled in the country, can testify that a rose tree at the window—a honeysuckle around the door of a cottage is a good omen to the weary traveller. The hand that cultivates flowers is not closed against the supplications of the poor, nor against the wants of the stranger. Flowers have been called the alphabet of the angels, wherewith they write on hills and plains mysterious truths. S. O. J.

EXTRACTS AND REPLIES.

WHITE PINE SEEDS.

Can you inform me where some seeds of the common White Pine may be bought, and the price? When should it be sown? R. S.

Millington, Mass., March 26, 1871.

REMARKS.—Tree seeds are seldom to be found in seed stores here. It is difficult to keep some of them so as to preserve their vitality. As a general rule they should be planted soon after ripening. The white pine ripens its seed in August and September. Mr. David Allen, to whom the premium on forest trees in Plymouth County, Mass., was awarded in 1852, says the proper time to gather white pine seed is from the 25th of August to the 10th of September and before the burrs open. They should be spread on a tight scaffold, away from mice, and when dry can be threshed with a flail without injuring the seed. December is considered a good time to sow the seed, though if kept moist they may be sown in March. Many who have cultivated pine forests prefer transplanting small trees from pastures, road sides, &c. For this purpose May and June are favorable months. Mr. C. Morton of Kingston, Mass., furrowed a piece of ground as for corn, only wider, took up small trees from pastures, &c., with a shovel, with considerable sod and soil about the roots, placed them in the furrow at proper distances and hauled the earth about them. Of 400 thus transplanted in the last of May not one in twenty died. In one case a hired man furrowed the ground and dug up and set out trees on half an acre of ground in one day. Trees transplanted in the same way the next October nearly all failed. Possibly were you to order now some White Pine seeds for next fall some of our dealers would engage them for you. Messrs. J. Breck & Son have furnished them on such orders. Probably others would do the same.

STRAWBERRIES AND ONIONS.

Having passed three score years, half of which I have spent in manufacturing business, I now come back to the farm to get my living from the soil. I would be glad of a chapter from you on raising vegetables and berries,—the labor and expense, the profit and loss. Which of the following kinds of Strawberries would you recommend—Wilson's Albany, Jucunda, Nicanor, Peak's Emperor, Tri-

omple de Gand? I have a piece of land that has been planted two years with potatoes. Will it do to put on some short manure and cultivate it in, without ploughing, for onions? Some say the harder the ground is the better for onions. Which is best for market? W. B.

Cohasset, Mass., March 26, 1871.

REMARKS.—One or two bound volumes of the Monthly FARMER, with its ample index of subjects, will give you "chapters" on almost any agricultural topic on which you need information. Capt. John B. Moore's essay on the culture of small fruits, pages 142, 143, 144 and 145 of last year's volume, would probably be worth the cost of the whole book to you. Just now we have not time at command to answer your inquiries fully. In relation to the first strawberry you mention Capt. Moore remarks, "for profit there is nothing better than Wilson's Albany; for eating without cooking there is nothing poorer in quality." With some of the kinds that you mention we have no acquaintance. Hovey's Seedling is still popular in this vicinity. The Cutter's Seedling is popular. Mr. Manning of Reading has the Wilson's Albany and Cutter's Seedling. Last summer's drought has made plants dear—some \$10 a 1000. A gentleman recently informed us that he was intending to set out, near Lowell, about an acre of strawberries this spring, and that last fall he engaged the plants of a neighbor who had a large old bed on rather dry land, that had not been mulched. On examining the bed recently the owner and himself were surprised to find that there was scarcely a live plant on the whole plot. At the same time the plants on a small bed on similar land that was mulched last season were alive and vigorous.

Soil for onions should be rich and fine, whether a cultivator or plough are used. The Early Danvers is most popular in Essex County. Mr. Gregory calls the Red Globe good. The Potato Onion is the earliest and most sure.

DWARF APPLE TREES.—MONTHLY FARMER.

I wish to inquire if there is anything known of the Dwarf Apple tree? There has been an agent for fruit trees canvassing in this town this winter, and his chief attraction was this dwarf tree, the parent stock of which he says is imported from Germany to New York, and is set there to be budded. He claimed that it would succeed in any soil, and not being an apple stock the apple borer is less liable to trouble it, and the fruit is harder and more perfect.

I would also inquire how many bound volumes of the NEW ENGLAND FARMER monthly you can furnish, and the cost.

East Dover, Me., 1871.

B. B. SMITH.

REMARKS.—The apple tree is dwarfed by grafting on the Paradise or Doucin stock. Mr. Thomas, in his "American Fruit Culturist," says, "for summer and autumn sorts, dwarf apples are valuable in affording a supply to families. They begin to bear in two or three years from setting out, and at five or six years, if well cultivated, will afford a bushel or so to each tree. A portion of a garden as large as the tenth of an acre, may be planted

with forty or fifty trees, without crowding. All the different varieties of the apple may be made dwarfs by working on the Paradise or Doucin stock—the former are smaller and bear soonest; the latter are larger and ultimately afford the heaviest crops. Among the handsonest growers as dwarfs, are Red Astrachan, Jersey Sweet, Porter, Baldwin, Dyer, Summer Rose, Benoni, and Bough."

Our own experiments with the dwarf apple tree have not been very favorable. They grew sprawling, and without careful trimming, became ungainly looking things. Perhaps ours were not on the right kind of stock.

We can furnish the whole of the new series of the Monthly FARMER, four volumes, for 1867, 1868, 1869 and 1870, for \$8.25—either volume \$2.25.

THANKS TO CARRIE—WHITE SPECKS IN BUTTER.

Through you I wish to thank "Sister Carrie" for her very useful letter upon butter making. It is directly to the point and has been of service to me.

In your last issue we noticed an article in regard to the great dilemma of the dairymen of Vermont (women would probably have had no such trouble) in respect to "white specks in butter."

Not being of a scientific turn of mind I cannot explain through what chemical process the Vermont cream passes to form white specks in the butter, but a very common-sense view was given by an Irish dairywoman, who on hearing the article read, exclaimed, "Great fools! if they would put no sour milk in their cream, the white specks would not trouble them in the butter."

Please to restate the receipt for taking the pine taste out of barrels, which was given a few weeks ago.

MRS. T. G.

Deerfield, Mass., March 29, 1871.

REMARKS.—Pine is not generally regarded as a suitable wood for dairy utensils, and we are not able to refer to any receipt lately published in the FARMER for removing the pine taste from barrels. Possibly the following is what is referred to:—

TO CLEANSE MUSTY BARRELS OR CASKS.—Put a quarter of a peck of unlacked lime in the bung hole of the barrel, into which pour a gallon or two of boiling water to slack the lime, then put in the bung and shake the cask well so that the contents of it will come in contact with all of the inside. Let it stand a day or two, after which rinse out well with plenty of cold water. If the barrel or cask is still musty, the same operation must be repeated, and a strip of cloth dipped into melted brimstone and hung down in the bung hole, set fire to and the bung slightly driven in.

EXPERIMENTS WITH SPECIAL MANURES.

When I wrote you last I told you we had four or five agricultural papers in Georgia, and it appears we have at least six now. I think this shows at least, that there is a great deal of inquiry into the science of agriculture. Men are experimenting, trying to learn what kind of manures and fertilizers will enable them to realize the largest crops at the least expense. Some are using all their energies to manufacture, gather and save manures for the coming crop, myself included in this class.

I began experimenting in a small way on my wheat crop last fall. The first I sowed without any manure the 8th of October, on wheat stubble; the second lot was soaked in blue vitriol twenty-four hours and dried with plaster. On a portion of this—some of the very poorest—was sown 125 pounds of dissolved bones, guano, salt and plaster.

The wheat on the portion manured shows now to the very line, and is far better than the rest, sowed the 21st of October on oat stubble. I sowed a third lot on cotton ground, seed prepared as the second lot, in plaster, and sowed also 300 pounds of dissolved bones and the ashes, &c., in which they were dissolved. This was sowed from the 18th to the 21st of December, and did not come up until the latter part of January, but is growing finely now.

On a portion of my first sowing I hauled out in January four wagon loads of rich mould that had been mixed one or two months with fifteen bushel of lime and one of salt; on another portion I sowed at the rate of half a bushel of plaster and four bushel of ashes early in December; and still on another portion, in the fore part of February, I hauled out five wagon loads of ashes and brick dust on about an acre, and a small portion is left without anything being added to the soil, which is poor.

On my second lot I sowed about the first of February, at the rate of two bushels of salt; on another portion 300 pounds of dissolved bones and ashes, and a small part of that on which I had sown salt. By the side of this I sowed ten bushels brick dust and all the ashes I could gather with it, and two bushels good fresh ashes, with half bushel plaster to the acre, and again by side of this I sowed forty bushel of the same dust and ashes with a bushel of plaster and bushel of salt, and by the side of this again, brick dust and the ashes burned with it about the same as on the first lot.

There was a triangular piece of this second lot on which there was sown with the wheat and ploughed in with it some of the fertilizer first named, that was also sown with salt and another with dissolved bone and ashes.

I do not expect to follow out the results of these experiments so particularly as to measure the ground and the wheat on each separate part, possibly on none of them, but I do intend to watch the effects very closely all through the season and still more particularly at harvest, and have no doubt I shall be able to gain some knowledge that will be very beneficial in the future.

I think this is the kind of knowledge that will make farming pay here equal to anywhere else.

Cartersville, Georgia, March 24, 1871. J. H. R.

REMARKS.—In a private note, the writer of the above communication says that as it refers mainly to experiments yet incomplete, he does not suppose it will be considered worth publishing. We think, however, the Northern farmer will take an interest in the efforts of his Southern brethren to increase his crops, and to make poor land yield more luxuriantly, and we hope by publishing the foregoing now to increase our correspondent's obligations to communicate the knowledge he obtains by the result of his experiments.

CORN ON MANURE AND ON SUPERPHOSPHATE.

I propose in this paper to give you an account of the tillage and production of two fields of corn in my neighborhood that came under my observation during the last year.

The land of both fields was very similar in kind and quality,—warm sandy loam,—just the right kind to produce a good crop of corn with liberal manuring. Both pieces of land had been pretty severely cropped and were in a low condition and a poor state of tilth. Both pieces were well ploughed, planted about the tenth of May, and well tended during the summer.

One piece, the lightest and if any thing rather the poorest soil, was manured with a common barn shovelful of compost to the hill, made up of some

loam, and the droppings of the horse, cow and pig all mixed together, with a small handful of ashes put to each hill at the time of planting. The produce on this field was ninety-three bushels of ears of plump sound corn to the acre,—that being the area of the field,—and the corn was uniformly good on all parts of the field.

The other field was manured with phosphate of lime,—a single handful to each hill,—one-half put in at the time of planting, the other half was put round the corn at the first hoeing, and no other manure of any kind was used on the field. The corn came up well, grew splendidly the fore part of the season till about the time it was well set for ears. Then it began to turn a sickly color and showed unmistakable signs that the strength of the phosphate was exhausted, and though there was a fair amount of stover, the crop, so far as grain was concerned, prove a signal failure, except on a small part of the field that was a little dishing where the soil was stronger and in good deal better tilth than the field would average.

ROYAL SMITH.

Millington, Mass., March 26, 1871.

BUTTER MAKING.

I was a farmer's daughter and am a farmer's wife, and have made butter for thirty years. I see in reading the columns of your paper the questions are asked, What ails the cream? Why don't the butter come? Now, I pretend to say that butter will come just as quick in the winter as in the summer, if you have a warm place to set the milk and keep the cream in. I don't think the milk or the cream ought to be chilled or frozen at all. If I have a right place to set my milk in I never scald it, nor the cream. If it is very cold weather, the day before I churn I set the cream in a warm room, and it comes so quick that the men folks don't get out of patience in churning. Now if the men want the butter to come quick they must find a suitable place for the milk, and not find fault with the wife because the butter don't come.

I think it a good plan to stir the cream every time we put any in to the cream can. If your churn is too large, buy or borrow a small one. Never let the cream get bitter, but if it should happen to be so, take a little new milk and put in a few spoonfuls of white sugar and stir it up well and then pour it into your cream just before churning. It will add much to the taste of the butter. I use no saltpetre nor salt in my cream. I agree with you Lady writer of March 10, about washing butter. I always wash mine in cold and hot weather. If very cold, I put just a little warm water with the cold water to wash it with,—just enough to take the chill off. I always use carrots for coloring butter.

MRS. J. B. P.

Putney, Vt., April, 1871.

A GOOD COW—GOOD FEED—GOOD BUTTER.

Having read with interest several letters in the FARMER on cows, and butter making, I feel it is but justice to our good cow that a word or two should be said in her praise, and as my husband is too much occupied with his business to do it, I shall make the attempt myself. She is fourteen years old, and last May she calved and had twins; consequently she did not do as well as in some previous years. But I will give the milk and butter statements of last year:—

Made 203 pounds of butter	\$101 50
Sold 1114 quarts new milk	74 48
Sold skimmed milk	64 67

\$240 65.

This is independent of cream and milk used in our family and given away. Cream and milk we

use lavishly, and our good farmer John has daily new and skim milk. Our cow is now giving about twelve quarts of milk a day, and we make about three and a half pounds of butter a week. We should make more, but four quarts of new milk are taken out daily. Farmer John thoroughly understands taking care of cows, and is very judicious in feeding her. She now has daily four quarts of meal, six quarts of shorts and as much good hay as she will eat. Once a day he steams the hay, and gives her cut feed. She is part Ayrshire.

With regard to butter making I must say a few words, although my experience is limited. We have never had any difficulty in making good butter from any cows which we have owned, and we never churn to exceed three-quarters of an hour at any season of the year before the butter comes; and now not over fifteen or twenty minutes. We have a very good milk room in our basement. The milk stands twenty-four hours at this season of the year, and twelve in summer. I churn once a week now. Keep the cream in a stone pot. The day before churning, have it set in the kitchen, as the milk room is cold. I scald the churn and put the cream into it while it is moderately warm. Our butter always comes firm, and now it is sweet and almost as yellow as June butter. It seems to me the great secret of butter making is keeping every article in which milk or cream is put scrupulously clean and sweet, and not keeping the cream too long before churning.

M. N. S.

Providence, R. I., March, 1871.

OX AND HORSE WAGONS.

Friend Rollins has explained matters much to my satisfaction, and I will try to do the same for him. It appears that his wagon was an ox wagon; altogether different, then, from what I had imagined. Such a wagon on the farm is quite a contrast to a horse wagon used mostly on the road. Mine is a horse wagon and has been in use about every day that wheels can run and the weather is suitable for man and beast to work in Massachusetts. As to housing, I could not spare it long enough for that, hardly long enough to have it painted as it should be. When one has been thus used for fifteen years it needs a good deal of repairing; in fact I consider it worn out. Friend Rollins thinks that we must have poor timber in Plymouth county, or poor workmen. I calculate to use the best of lumber, and as I do the wood work myself, I spare no pains. I use no timber that has knots, shakes or sap in my work. Lest we tire the patience of the editors and readers of the FARMER, perhaps friend Rollins and I had better confine our chat about wagons and wheels to private letters or personal conversation.

S. DENHAM.

South Hanson, Mass., April 5, 1871.

WHITE SPECKS IN BUTTER.

In reply to the inquiry about white specks in butter, I will say that when cream is removed there is usually more or less milk taken with it. This in warm weather settles, sours and becomes like cheese; and in cold weather a similar result is produced by heating or warming the cream for churning. I never have white specks in my butter when I stir the cream in the jar with my butter paddle every time I add more cream to the jar, first stirring also, in the dish, that which is added. By this means the milk does not settle, but is kept thoroughly mixed with the cream. If the weather is warm I stir the cream in the jar every day, whether I add any to it or not. I have practiced this method eight years and have had no trouble with white specks in my butter.

MRS. C. D.

Dartmouth, Mass., 1871.

A NEW WAY OF MAKING CHEESE.

In a conversation recently with an intelligent gentleman, one interested in all farm processes, and practically familiar with many parts of farming, he related the manner of making, or rather of pressing cheese, practiced by a neighbor of his—a woman skilled in household economy, and famous for her nice cheese. With the number of cows usually kept, it takes three days to make a cheese. Her former method was to run up a curd each morning, keeping them until the third day; then mixing old and new curds together, and putting them into the hoop and pressing. Her practice is now to run up the curd and put it into the press at once, the hoop being about one-third full. The next morning the second curd is run up, that which was in the hoop is taken out, the cloth changed, placed in the hoop again, the top of it then scratched or broken with a fork, and the second curd put in, when it is again placed in the press, where it remains all day. The third morning's curd is then run up, the cheese taken from the press, turned, the surface hacked up with a fork, and the third curd again sliced on, bringing the first curd in the middle of the cheese. It is then pressed sufficiently, taken out and placed in the curing-room. By this process the work each morning is cleared all away, and a good-sized cheese is produced of superior quality, and one as firm and solid as if all were placed in the hoop at once.—*Maine Farmer.*

THE HORSE MARKET.

We are sometimes asked as to the state of the horse market in this vicinity. To such inquiries we have replied that the prices of horse flesh were governed entirely by fancy, for anything except those offered as workers, or those which have become broken down from age, ill treatment or other causes, and that in giving the range from \$5 to \$1500, or more, we were really giving no guide whatever to the average rate. The following, from the *Journal* of a late day, gives some interesting information on this point:—

The remarkable mild weather of the last month has brought about, among other things, an early opening of the horse market. Generally not much is done in this line until April, but the demand for good horses is quite active, while the supply is constantly increasing. Car loads from all sections of the country are arriving every day, and a visit to the established horse marts shows considerable activity in this extensive business.

Any one, after a casual visit to these institutions, will very naturally ask, where do these horses all come from, which could in a measure be better answered by detailing where they don't come from, as a large proportion of the States help to keep the market supplied, and a large amount of Canadian stock finds its way into the large cities in the course of a year. New England supplies the finest

driving horses that are found in this market, both as regards speed and style. Maine sends among her quota many of the Knox stock: Vermont has, in previous years, sent numerous representatives of the Morgan blood, and in this State it will not be difficult to find on the various stock farms horses of high pedigree, such as Morrill, Black Hawk, Hambletonian, Abdallah, Mambrino and other well-known stock. Having been raised in our changeable climate they are better adapted for this market and bring high prices.

Kentucky and New York supply a very large number of fine horses, a large proportion of them blooded. Ohio, Michigan, Indiana and Pennsylvania also furnish a large supply, those from the latter State being, for the most part, large draft horses, as they are possessed of great endurance.

The horses that come from a distance are handled with great care after they arrive, in order that they may become acclimated. They are lightly fed and exercised but little for a few days. They come loaded fifteen to seventeen in a car, in a loose state, with their hind shoes off, and the best class of horses have their tails braided and protected, to prevent their being mutilated, as it is sometimes the case that, in their journey hither, occupying in some instances four or five days, they are unloaded and fed but once, and becoming hungry they will gnaw at anything.

Prices may be quoted as stiff, good working horses bringing all the way from \$175 to \$350. Driving horses are in good demand, and it is rather difficult to fix the prices, so much depending on the style, speed, action and pedigree of the animal. A fine horse can be bought for about \$300, while a horse first class in every respect will bring \$1000 readily, and the higher cost stock sells quite as quick as that of an inferior grade.

RAISING POTATOES.

I am convinced that we talk too much about "large vs. small potatoes for seed," "planting in hills or drills," and depth of covering, and far too little about enriching and preparing the ground, and keeping the crop free from weeds. If the land is dry, rich, and clean, and the potatoes are planted in good season, and the soil kept well stirred by the use of the cultivator until there is actual danger of cutting off the roots and tubers, and any weeds that have escaped the hoe are afterward pulled out by hand, the chances are favorable for a good crop, no matter what system of planting is adopted. And, on the other hand, if the land is wet and poor, and the weeds are suffered to choke the crop, it is no use to talk about size of seed, or distance of hills. Get the land right, and if you have then time to talk about new varieties, and the best method of planting, well and good; but do not try to get a good crop by any species of agricultural legerdemain. You cannot cheat nature; and all who attempt to do so are ultimately found out and punished. It is the greatest evil connected with our farming.

Seeding Down Without Manure.

M. S. Clark, of Vermont, has a piece of land that was in corn last year that he wishes to sow next fall with winter rye and seed down with grass. His object is to get a good permanent meadow or pasture. He has no ma-

nure, and proposes to sow the field this summer with buckwheat and turn it under, and asks my opinion of the plan. If the soil is clayey, I should prefer a good summer fallow. Make the land as smooth and mellow as a garden, and sow on the grass-seeds the last of August without any other crop. Mr. C. asks me "how many crops of buckwheat would be equal to a dressing of 25 tons of barn-yard manure." We have not the necessary data to answer this question, but judging from what facts we have, I think it would take eight or nine average crops of buckwheat to furnish as much nitrogen as is contained in twenty-five tons of good manure.—*J. Harris, in American Agriculturist.*

SOAP AND HOG CHOLERA.

J. T. Busty, Lancaster, O., writes to the *Ohio Farmer*, that he had known hogs, said to have this disease, dissected, and the stomach, bowels, and liver found to be full of worms, three and four inches long, the ends of them being pointed and sharp, and of a hard, rough wiry appearance. In one instance the cavity of the gall was crowded full of these worms. His Poland pigs got the cholera. He caught the pigs, placed them on their backs, one boy holding the legs and another the ears, and gave each pig a tablespoonful of soft soap, morning and evening, for three days. The second day he observed in their droppings, long, stringy substances, which he found to be the skins of what he supposed to be worms, which was proof to him that the soap had the desired effect. He also put soft soap into the swill and fed his other hogs, which improved their appearance very much.

LEFT-HANDEDNESS.—Many parents try to cure their children of left-handedness by using severe measures, such as whipping, or obliging the child to go for weeks with the left hand tied to the body. Some even go so far as to make it a matter of special shaming and mortification. These should never be tried until a patient trial of pleasanter measures has failed. Left-handedness certainly produces an awkward effect, but it is not one of the cardinal sins. If a child can be taught to write with her left hand, to use her knife, fork and spoon properly, raise her glass, and offer her right hand in salutation, it is by no means necessary to cure her of using the left hand occasionally. In many cases, to be ambi-dextrous is invaluable to a woman. All needlework should be carefully taught with the right hand as needle-holder, but left-handedness should not be treated as a crime to be punished. The child should be kindly told its disadvantages, and shown how awkward it looks. A pretty coral bracelet of beads, strung on elastic, worn on the right hand, has a marvellous effect on left-handed girls, and is always worth trying.—*Hearth and Home.*

Ladies' Department.

LOVE'S COLORS.

BY C. C. FRASER-TYTLER,

Not violets I gave my love,
That in their life are sweet and rare,
And deep in color, as the heart
Whose every thought of her is prayer;
For violets grow pale and dry,
And lose the semblance of her eye.

No lily's buds I gave my love,
Though she is white and pure as they;
For they are cold to smell and touch,
And blossom but a single day;
And press'd by love, in love's own page,
They yellow into early age.

But cypressen I chose to give,
Whose pale white blossoms at the tips
(All else as driven snow) are pink,
And mind me of her perfect lips;
Still till this flower is kept and old
Its worth to love is yet untold.

Old, kept and kissed, it does not lose
As other flowers the hues they wear;
Love is triumphant, and this bloom
Will never whiten from despair;
Rather it deepens as it lies,
This flower that purples when it dies.

So shall my love, as years roll by,
Take kindly colors for its own;
Sole master of her vanquish'd heart,
Am I not master of a throne?
Crush'd by no foot, nor cast away,
My purple love shall rule the day.

THE MANAGEMENT OF CHILDREN.

There is a tendency, we think, at the present day, to put children too forward, not so much for the sake of showing off their extraordinary merits to an admiring world, as from the better motive of early accustoming them to the conversation of grown people and the usages of society, and of inspiring them with confidence, ease, and self-possession. No doubt these results are very valuable; but the mistake which many people make is in forgetting that children are something like dogs, which require to be very well trained before they can safely be recommended to the familiarity of strangers. And it is to be remembered that the moment children cease to respect any of the grown-up people with whom they associate, not only is the whole benefit of the intercourse lost at once, but real injury is inflicted on the moral tone of the child. For this reason children should be brought as little as possible into the society of men and women who cannot command their respect; while of those who can, the influence should be hedged round by all the numerous impalpable barriers which judicious parents know perfectly well how to interpose between children and the most popular and careless of their adult play-fellows. The confidence which well-bred children at once repose in an eligible stranger, without being either rude or troublesome, is charming to everybody who has any natural taste for their society.

But closely allied with the mistaken license allowed to children in matters like the above is the disposition to laugh at, and thereby to encourage, all traits of singularity, oddness, or affectation which children may exhibit, as marks of genius which ought not to be repressed. Of all the dangerous errors into which parents can fall, this, in our opinion, is the worst. For nothing so soon hardens into second nature as juvenile eccentricity; and few things are more injurious to success in life than marked oddities of manner and gesture when they reach the point of grotesqueness. The majority of the world agree with Mr. Peter Magnus; they don't see the necessity of originals. And what is more, so many "originals" are only sham ones after all. That is to say, their singularity is merely a bad habit which they can't shake off, and it is only very partially innate. When you see a child doing anything unlike other children, anything queer, surprising, or uncouth, however comic or however clever it may seem, never laugh at or applaud it. Children naturally very self-willed, and with real natural peculiarities, can soon be broken of such tricks, if treated with absolute indifference. But once let the idea find its way into their brains that such sallies, naughty though they be, are regarded as marks of genius, and the mischief is done.

To come back to the point from which we started—the management, namely, of young children—there is one thing to be laid down: let there be no divided rule in a house. Don't let the children see that the father means one thing and the mother another in their bringing up. They see the difference, if it exists, in a moment; and when they do, farewell to all wholesome parental influence. Husbands and mothers may talk too freely before their children, forgetful of their rising intelligence. And, indeed, nothing is more common than to get a wink from the head of the house, implying that you are to be on your guard before Johnny or Tommy, who is listening open-mouthed to your witty narrative, while he himself the next moment will offend against his own precautions in the most barefaced manner by plunging headlong into your domestic controversy, in which, to speak metaphorically, knives are freely used on both sides.—*Macmillan's Magazine*.

TO YOUNG HOUSEKEEPERS.

Be satisfied to commence on a small scale. It is too common for young housekeepers to begin where their mothers ended. Buy all that is necessary to work skillfully with; adorn your home with all that will render it comfortable. Do not look at richer homes, and covet their costly furniture. If secret dissatisfaction is ready to spring up, go a step farther and visit the homes of the suffering poor; behold dark, cheerless apartments, insufficient clothing and absence of all the comforts and

refinements of social life, and then return to your own with a joyful spirit. You will then be prepared to meet your husband with a grateful heart, and be ready to appreciate the toil and self-denial which he has endured in the business world to surround you with the delights of home, and you will co-operate with him in so arranging your expenses that his mind will not be constantly harassed lest his family expenditures may encroach upon public payments.

Be independent; a young housekeeper never needed greater moral courage than she does now, to resist the arrogance of fashion. Do not let the A.s and B.s decide what you shall have, neither let them hold the strings of your purse. You know best what you can and ought to afford. It matters but little what people think, provided you are true to yourself, to right and duty, and keep your expenses within your means.—*Rural New Yorker*.

GARDENING AS WOMAN'S WORK.

This has long seemed to me an employment in which women would not only gain health and strength, but in which the most modest and retiring might find a congenial occupation, and the products of which are never depreciated because raised by a woman. A peck of peas has a certain market value, not dependent upon the hands which raised them. A woman who works on pants receives fifty cents a day, not on account of the amount or quality of her work, but because she is a woman. A man engaged upon the same garments receives \$2 a day, not because of the amount or quality of his work, but because he is a man. It is doubtless true that, in very many cases, the man does his work better than the woman; but it is not less true that, in a majority of cases, the difference in price grows out of the difference in sex. So of the school. A male teacher receives \$1000 a year, not because his moral influence is better, not because the pupils learn more, but because he is a man. A woman teaches a similar school, and receives \$400, not because of the inferiority of her moral influence in the school, not because the pupils learn less, but because she is a woman. Now, happily, all this is avoided in gardening. A man who would sell a beet is not obliged to put on a label, "raised by a man, ten cents," and upon another, "raised by a woman, four cents," but the article brings its market value. This is a great advantage, and one affording a special gratification to women of spirit. Besides, gardening is an occupation requiring very little capital, and, except in the fancy departments, comparatively little training. Near any of the cities a woman can earn more upon a half acre of land, with four months' work, than she can earn by sewing twelve months, saying nothing of the healthfulness of gardening,

and the unhealthfulness of sewing.—*Our Girls*, by *Dio Lewis*, A. M., M. D.

DOMESTIC RECEIPTS.

LARD.—Leaf lard is the nicest for all cooking purposes; skin all the fat that is to be tried into lard, and commence by frying gently a little leaf lard, or your fat will scorch; let it cook slowly, and dip off the fat as fast as it is liquefied, and strain it through a cloth; when all is strained that can be dipped off, squeeze the remainder by itself in the cloth. If the lard is to be used for cooking, salt it a trifle when first put on; much of the salt will be found at the bottom of the kettle undissolved, still, it would seem to be better that salt should be used. If the lard is to be used for burning in lard lamps, salt would be injurious. If the fat is not skinned before trying, the gluten in the skin will make the lard impure and frothy. Save the scraps and skins for soap grease.

BUCKWHEAT CAKES.—One quart of buckwheat flour, mix with lukewarm water, rather thicker than you will wish it when ready to bake. A cup of Graham meal added is, we think, an improvement; stir in a cup of family yeast, or half a penny's worth of bakers', and a teaspoonful of salt; mix in an earthen bowl, or a large earthen pitcher; the latter is the most convenient as the batter can be poured from the lip of the pitcher more neatly than it can be dipped out of a bowl; set it where it will keep warm all night. The batter should be made early in the evening, as it takes fully ten hours in winter to rise; when ready to bake in the morning beat half a teaspoonful of soda into a great spoonful of molasses and stir into the batter, adding also enough lukewarm water to make it thin enough to fry; bake quick; the thinner the cakes can be baked the better they will be.

FRENCH MODE OF FRYING POTATOES.—Cut them in whatever shape you wish above a bowl of cold water so that they will drop into it. Then drain and wipe them dry. This must be done quickly, so as not to allow the potatoes to become reddish. Have a coarse towel ready, then turn the potatoes into a colander, and immediately turn them into the

towels, shake them a little, and quickly drop them into hot fat. When done turn them into a colander, sprinkle salt on them and serve hot. If you wish them light or swelled, leave the potatoes in the colander only about half a minute, then put them back in the very hot fat, stir for about a minute, and put them again in the colander. If the fat is very hot, when dropped into it for the second time, they will swell.

ORANGE PUDDING.—Peel and cut five good sweet, juicy oranges into thin slices, taking out all the seeds. Pour over them a coffee-cup of white sugar. Let a pint of milk get boiling hot by setting it into some boiling water; add the yolks of three eggs, well beaten, one tablespoonful of corn starch, made smooth with a little cold milk. Stir all the time, and as soon as thickened pour it over the fruit. Beat the whites to a stiff froth, adding a tablespoonful of sugar, and spread over the top for frosting. Set it into the oven for a few minutes to harden. Eat cold or hot for dinner or tea. Substitute berries of any kind, or peaches, if you like them better than oranges.

COLD VEAL.—Mince the veal very fine, with a little ham, a tablespoonful of flour, three well-beaten eggs, one small onion, scalded for five or ten minutes to remove the coarser flavor, and then chopped fine; sweet herbs, pepper, and salt, to suit the taste. Butter a deep pie-plate; set a small cup in the centre, and fill the plate all round the cup with the mince-meat. Bake of a delicate brown; then remove the cup, and fill its place with some nice sauce—apple, cranberry, or jelly, or, if you please, some scalloped oysters. Beef, lamb, or chicken prepared in the same way is very good.

APPLE SNOW.—Stew some fine flavored sour apples tender, sweeten to taste, strain them through a fine wire sieve, and break into one pint of strained apple the white of an egg; whisk the apple and egg very briskly, till quite stiff, and it will be as white as snow; eaten with a nice boiled custard it makes a very desirable desert. Season with a very little nutmeg and cinnamon, add a little butter, and bake in good pastry; and you will have a very good apple pie.



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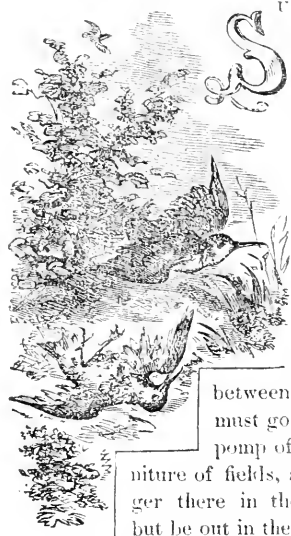
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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

SOME THINGS ABOUT JUNE.

Everything is happy now,
Everything is upward striving;
'Tis as easy now for the heart to be true,
As for grass to be green or skies to be blue—
'Tis the natural way of living.—*J. R. Lowell.*



SUMMER is come,
and JUNE, the
month of Ro-
ses, and every-
where, about
our feet in the
fields, flocks of
wild flowers
"do paint the
meadows with
delight."

To make the
contrast still
more striking
between the seasons, one
must go forth amid "the
pomp of groves and gar-
niture of fields, and not only linger
there in the declining day,
but be out in the freshness of the
morning, when the flowers are opening their
leaves to the sun, and when field and grove
are vocal with the concerts of birds.

The two grand husbandry occupations
among our English neighbors in June, are the
Hay-harvest and the Sheep-shearing. One of
their writers has charmingly described the lat-
ter. Sheep-shearing, he says, if not so full of

variety as the Hay-harvest, is more lively, ani-
mated, and spirit-stirring; and it besides re-
tains something of the character of a rural
holiday—which rural matters need, in this age
and in this country, more than ever they did
since it became a civilized and happy one.
The sheep-shearings are the only *stated* peri-
ods of the year at which we hear of festivities,
and gatherings together of the lovers and prac-
ticeers of English husbandry. * * * Now
then, on the first really summer's day, the
whole flock being collected on the high bank
of the pool formed at the abrupt winding of
the mill-stream, the sheep are, after a silent
but obstinate struggle or two, plunged head-
long, one by one, from the precipitous bank;
when, after a moment of confused splashing,
their heavy fleeces float them along, and their
feet guide them towards the opposite shallows,
that steam and glitter in the sunlight. Mid-
way, however, they submit to the rude grasp
of the relentless washer; which they undergo
with as ill a grace as preparatory school boys
do the same operation. Then gaining the op-
posite shore heavily, and shaking their stream-
ing sides, they go bleating away towards their
fellows on the adjacent green, wondering
within themselves what has happened!

How natural this picture, and how many
will be carried back to boyhood days, to the
old mill and its plashing stream, or the little
pond improvised for the occasion by a tempo-
rary dam of stakes and slabs! To the boys—

and to the girls too, who had not to enter the water—this was rural felicity indeed; and the duckings, races after an escaped sheep, or—the rogues,—perchance after one of the fair spectators, and the songs and jokes of the occasion, make our American scene vie with the jollities of our English brethren. Then,

“If verdant elder spreads
Her silver flowers; if humble daisies yield
To yellow crow-foot, and luxuriant grass,
Gay shearing-time approaches.”

JUNE is a hot month, and if the season is at all a dry one, more than usual attention will be required by the growing plants. On grounds that were wet in May, and where the surface had become crusted and hard, the cultivator and hoe ought frequently to be in use. If some suitable implement could follow the cultivator, on such land, that would break the lumps and reduce them to a light and fine condition, the plants would be greatly benefited. The compact surface prevents the ready descent of rain into the soil, so that too much of it runs off from the surface, and its enriching influences are lost. A hard surface also prevents the airing of the soil. This airing is as important to vegetable growth as the rain water, and if the soil is deprived of it, its plants will soon indicate it by a sensible change in their color, and a feeble growth. Many crops are materially diminished from this cause.

On higher and more dry lands, the same implements ought to be in frequent use for several reasons. If they are not of a highly fertile character, it is still more essential that their surface should be frequently moved. A soil that lies lightly and fine has innumerable open spaces for the admission of air, the descent of rain water, and especially the capabilities to take up the dews that rest upon it, and are thus watered whenever dew is deposited. All soils, also—excepting those of a decidedly sandy character—need frequent stirring to increase their depth. When they are porous and light far down, all the atmospheric influences can act upon them, so that they become fertilized beneath. Plants growing upon the surface soon become aware of this, for they certainly have the power of selection, and send their roots down indefinitely in search of fertilizing agents, and especially in search of moisture, if the season is a dry one.

In order to secure strong and thrifty crops,

it is all important that this special care should be given them, especially during the latter part of June.

Plants or flowers in the garden may be greatly helped in dry seasons, by watering them once or twice a week. But when done, it should be plentifully done. Use a watering pot, and imitate nature as closely as possible, by pouring on the water in small streams, and giving it time to penetrate the soil instead of running off into lower places. Continue the watering until the soil about the plant is thoroughly saturated, and then leave it for a week, unless the drought is quite severe. Of course, this cannot be done to any great extent, but a favorite rose, a mass of portulaccas or a bed of verbenas or heliotropes may be sustained, and made to blossom in unusual profusion and beauty. Where water is plentiful and at hand, even the beds of onions, carrots, beets and parsnips, may be kept thriftily growing, until the heavens are opened and showers descend. With the aid of a simple pump, short hose and sprinkler, this watering may be profitably extended to the pea patch, celery, young cabbage plants, tomatoes, cucumbers, lettuce and beans. We have seen gardens thus preserved in the highest luxuriance in the midst of scorching drought all around them. But this would be at too much cost, unless the water were stored up in cisterns, or the garden were located upon the border of some living stream.

As we may fairly count upon hot and dry weather in our New England climate, it is well to anticipate it, and make whatever provision is economical to prevent its destruction of the crops; just as we anticipate the coming of the canker worm, and take measures to prevent his coming too far. One of the best preventives against the effects of heat and drought, is that of

MULCHING.—This may be done in various ways. A coat of old, fine muck thrown over the surface, around favorite plants, operates finely. Refuse hay, straw, leaves, or small bushes, will answer an excellent purpose. One of the best illustrations of this occurred on the farm of ASA CLEMENT, Esq., a well-known nursery man in Dracut, and at present a member of the Massachusetts State Board of Agriculture. On a piece of land where he found it convenient that his cattle should run for a

portion of the summer, there were many young apple trees which had sprung up from seeds dropped by the cattle. These were pruned up as high as they would bear, to prevent the animals from browsing on them, grafted, and such branches as were cut from them, and the bushes that grew in their vicinity cut down, and all thrown around the base of the tree, and covering a space from six to eight feet in diameter. The principal motive in this was to keep the cattle from rubbing against the trees. But the result in another respect was highly beneficial. The branches not only kept the cows from disturbing the trees, but they caught and held the leaves that fell from themselves in the autumn, and arrested other leaves that were flying before the wind. These retained the moisture, and the whole mass, gradually decaying, gave a thrift and vigor to the trees that we have rarely seen surpassed.

Many gardens are located upon sandy loams which quickly feel the want of moisture. In such places many valuable plants may be kept in a growing state through the pinch, so that later rains will perfect a crop.

THE MILLET CROP.—Most milk producers, and, indeed, most farmers in all this region, find it difficult to feed their cattle as they would like to, by the beginning of August. Their pastures are then dry, and the feed nearly or quite exhausted. Some have resorted to clover as a green crop, others to oats, and at a later period to Indian corn, wherewith to supply deficiencies of their pastures.

Millet has been found to answer an excellent purpose, and is now cultivated to a considerable extent. Its yield is large, its luxuriant leaves juicy and tender, and much relished by all kinds of stock. It is usually sown from the 10th to the 20th of June, using *eight quarts* of seed to the acre. Some persons use more seed than this. If sown thick, the straw of the crop will be finer and perhaps better for green fodder, but should not be thick enough to obstruct the rays of the sun from reaching all of it. The seed should be sown with great care, going both ways across the field with it, in order to touch all the ground and cover it evenly. Mr. John H. Powell, of Pennsylvania, says:—I have not seen, either in Europe or America, any green crop which so largely rewards accurate tillage and plentiful supplies of manure, as the species

of millet usually grown in this and the adjacent counties. I have sown it from the 1st of May to the 20th of June, and have invariably obtained more fodder than could have been had from any grass under similar circumstances." On the 1st of May he sowed four acres, and on the fifth of July the crop was cured and estimated at *four* tons per acre. He adds:—"whilst my oxen consumed millet in its green state, they performed their work with more strength and vigor than they had done before, or have shown since, except when fed with grain. My cattle of all ages, prefer it to both red and the best white clover, meadow or timothy hay."

LETTING FARM IMPLEMENTS.

Fifty or sixty years ago the amount of money paid out by farmers for tools and implements was small, especially in the newer and rougher portions of New England. In our boyhood, which was passed on a new farm and in a new country, the iron and steel part of axes, ploughs, harrows, yokes, hoes, &c., were fashioned by the nearest blacksmith, while the wood work was supplied by the farmers themselves or by the carpenter. When carts were first introduced we well remember that only the wheels were purchased, the other parts being of home manufacture.

But all this is changed. Machines and implements of high finish and great cost are now made to facilitate almost every operation on the farm. To purchase all this machinery requires an amount of money altogether beyond the means of most small farmers. Hence in some cases neighborhoods join together in buying machines; in others individuals purchase threshing, stump-pulling and other machines and operate them as desired for individual farmers.

Another plan has been suggested, that of letting or renting tools by neighbors among themselves. We have recently received a little pamphlet, entitled "Rules and Regulations concerning the Letting of Tools. Issued by the Framingham, Mass., Farmers' Union, January 1, 1871." It contains an introductory note, a set of Rules, names of members, a "Charge List" and blanks properly ruled for keeping accounts with borrowers. The names of fourteen members of the club are given, with that of O. O. Johnson, M. D., as secretary. The prefatory note is as follows:—

Whatever may be the cause, expensive and efficient agricultural implements are not in common use. To purchase machinery capable of great results, an outlay is often incurred out of proportion to the profits of Agriculture. But a great variety of the best tools owned in New England communities, are worked to but a fraction of their capacity, although they are of vital importance to rural industry. No where else are they so much needed. Like money, farm machinery is locked in the strong holds of a few.

To release these implements and diffuse their usefulness, to place the best tools within the reach of every farmer, is the object of this Association.

The charge list is founded on business principles. Tools will not be let unless both parties are benefited. As all persons may be aided, we invite them to extend the usefulness of this system by adopting its methods.

Rules.

1. Lenders will exact care in the management of tools.

2. Hirers must pay for damage occasioned by carelessness; and damage shall be taken as *prima facie* evidence of carelessness.

3. The time upon which a charge is based shall be estimated from the taking of the tool until the same is returned. Any part of a day shall for this purpose be regarded as a whole day, except as hereinafter provided.

4. Tools will not be let for a single day for a less sum than five cents.

5. Terms are strictly cash.

6. In all cases of disagreement between a hirer and the owner concerning a tool, the arbitrators of this Association shall decide, and their decision shall be final.

7. No member of this Association shall in any case allow his implements to be used on any other terms than those stated in the charge list of the Association, except it be for the purposes of charity.

8. All persons taking tools from any member of this Association shall be governed by these rules.

To indicate the rate of charge we copy a few articles from the long list given, with the rates per day, as we suppose, though that fact is not distinctly stated.

A bit, hand and cranberry rake, hay fork, hammer, &c., 5 cents; an axe, beetle and wedge, chains, flails, ladders, wheel-jack, &c., 10 cents; biting harness, barley fork and hand saws, 15 cents; garden cultivator, dung fork, scythes, 20 cents; churn drills, gravel screen, root-pullers, one-horse hay wagon, one-horse plough, sleds, scrapers, tackle and fall, &c., 25 cents; corn sheller, hand cider-mill, &c., 30 cents; one-horse cart, two-horse hay wagon, two-horse plough, &c., 40 cents; two-horse carts, cradle, field seed sower, &c., 50 cents; fan mills, rail-way horse power, &c., 75 cents; power hay-cutter, two-horse ploughs, circular saw, potato planter, &c., \$1; stump puller, \$1.50; grain drill, \$2; mowing machine, 50 cents per hour; hay press, \$3 per day.

INSOLUBLE MATTER.—In criticising, some years ago, an analysis that some professed chemist had made of limestone, in which a portion of the ingredients were set down as "insoluble matter," Prof. S. W. Johnson said, "such exhibitions of professional folly may do for fifty years ago, but in this part of the nineteenth century we recognize no such substance as 'insoluble matter' in our nomenclature. In this same insoluble matter may be hid the very pabulum of vegetable life."

COTSWOLD AND MERINO SHEEP.—Mr. J. Harris, of Rochester, N. Y., bought last year Michigan Merino ewes that cost about \$2.50 each, and a thoroughly bred Cotswold ram. In his *Walks and Talks*, written March 21, for the *American Agriculturist*,

he says that thus far, from twenty-six ewes he has had thirty-four lambs. Some farmers have thought that a cross between the large coarse wool sheep, either Leicester or Cotswold, was too violent, if not unnatural. But Mr. Harris believes that such is not the case, and says he does not desire better luck than he has had with these ewes and lambs, though he has fed no roots. He thinks the butchers will be willing to pay a good price for his lambs in May. Mr. Harris adds:—

"An English farmer who is staying with me, and who formerly kept some 300 breeding long-wooled ewes, was at first quite disposed to laugh at my Merinos. But he is now quite converted. It is really amusing to hear him talk so enthusiastically about the motherly qualities and milk-producing capacity of these little Merino ewes."

EXTRACTS AND REPLIES.

HOW TO CLEANSE A FOUL WELL.—WILL CAUSTIC LIME DISSOLVE BONES?

Last summer a small well that supplied water to my buildings, dried up, and remained dry during the fall and winter. Early this spring I found there was some water in it, but on putting in a pole to ascertain its depth, I stirred up a strong smell which proved that a skunk was or had been in the well. Indeed so offensive was the smell that no one could hold his head for a moment over the well. I did not know what to do to purify the water, the surface of which I could see was covered with a bluish scum, and the scent was thus exceedingly disagreeable. By the advice of one neighbor I started to the village for some plaster of Paris to put into the well. The man who sells plaster also sells lime of his own burning, and he said lime was altogether the best for my purpose. I therefore took some of his lime, warm from the kiln, and like the man with his wife's bonnet, who was afraid the fashion would change before he got it into her hands, I hurried home with my steaming lime, fearing it would cool, and immediately put a peck or more of it still warm into the well, which caused a fine commotion in the water. It remained undisturbed four days, when finding that all the smell had been removed, the water was pumped and dipped out, and the bottom of the well thoroughly scraped and cleaned by a small boy,—the well not being large enough for the admission of a man. The boy said he did not notice any smell at all in the well, but on exposing the mud to the air I thought there was a perceptible odor. The water pumped out was so lumpy as to make our hands sore in handling it. I have thus learned a lesson in relation to purifying wells, which may be of some practical value to others as ignorant as I was on the subject. Several of my neighbors said it would take months to cleanse it.

But I wish to learn one thing more. Did the lime destroy the bones as well as the flesh of the animal which I suppose blundered into the well and caused the impurity I have described? We found some hair, but noticed no other animal remains. Did the lime decompose the bones? T. S. F.

Felchville, Vt., 1871.

REMARKS.—The question with which our correspondent closes his letter has been submitted to an experienced chemist who replies as follows:—

"When bones are treated with a dilute alkali (as potassa) the cementing material of the bone (gelatin) is dissolved out, and the bone crumbles to powder. I have no doubt that the same effect would be produced by caustic lime. I should sup-

pose that when you have got rid of the remaining lime, by pumping the well dry repeatedly, that no harm whatever would happen from the crumbled bones."

TREATMENT OF COWS AFTER CALVING.

The best thing to give a cow after calving is the milk first taken from the cow after the calf is dropped. If it is given to her warm, as soon as drawn, she will generally take it readily; but occasionally a cow will refuse it. We had one lately from which we milked two water pails pretty well on towards full, soon after the calf was dropped, but as usual with her, she refused to drink it. Taking a wooden quart measure that was at hand, we poured down a quart of it, every drop of which she dexterously managed to swallow. After taking a second one she pointed her attention to the pails, which being given her were greedily emptied of their contents.

We always allow the cow to eat the "cleaning" or afterbirth. However unnatural the appetite may be to the normal condition of the animal, we believe it indicates the wants of the cow at the time, and therefore should not be withheld.

HUNGARIAN GRASS AND CORN FODDER.

I fully agree with Mr. Sanderson as regards the value of Hungarian. Cut at the right time it is one of the best articles of fodder grown. Without proposing it as a substitute for corn, it possesses certain advantages of its own. It can be grown later than corn. I once raised an excellent crop after taking off a crop of late peas, about the 20th of July. Another lot of about four acres produced a very good growth, sown about the 12th of July. The lot was ploughed by odd jobs. The manure and labor at my disposal would not have raised corn fodder enough to have paid for the seed. This, too, with the disadvantage of a severe drought, which I think this plant stands better even than corn.

The saying of Dr. Loring, that corn fodder "is not worth anything," we always thought "rather steep" and at variance with the experience of dairymen everywhere. We may say this much, though we always regarded the Doctor as a pretty successful farmer, considering that with him everything has to be done by employees, which in these times of "labor parties," "strikes," high prices and a general disregard of everything not paid for and "on the bill," leaves a rather poor show for farm business, if it must be done by proxy. But that steep saying of the Doctor, "made up" as it seemed, becomes quite comprehensible after reading the experience of our friend Cheever. His cows would not eat well cured Hungarian or millet. He says his cows preferred to enjoy the society of their owner to eating that kind of fodder. Well, this might seem a little strange at first, but all true, no doubt. This case, like that of Dr. Loring's, is to be accounted for, no doubt, by some *strange eccentricity* on the part of the cows. Such things probably do happen sometimes. But if I had them I should probably make beef of both lots. AMERICUS.

Blue Hills, Mass., April 1, 1871.

AGRICULTURAL SOCIETIES AND FAIRS.

When abroad among our farmers I often find subjects upon which to offer some suggestions to your readers. It is so, also, when I am in the field. But I greatly rejoice for the advanced position of your prized paper. Twenty years ago your correspondents were few, compared with the present number of instructive writers who appear in your columns. Then, the high interest and pleasure I felt in the prosperity of a favorite journal, prompted me to put to paper every important item which I thought would add to its interest. But it

is now, I am glad to see, quite beyond needing my contributions for its interest. Yet, for years past, many items have seemed to claim attention from my pen; but one unpleasant subject has always thrust itself to the top of my thinking, when I have been disposed to write for your paper. You have, to some extent, and well, discussed it in the past.

Many of the "Agricultural Societies" are so managed that honest farmers who know how things are done, not only have no confidence in them, but regard them with contempt. Not only is it true that the real farmers, in many of them, have only a secondary influence, but men who are only related to Agricultural Societies, as sucking calves are to a dairy, are forward as though they were all-over in the farming interests. I do not mean by this, such men as agricultural editors, &c. While agriculture, in a direct manner, feeds the world, or does most of it, it is made to feed, through its special agencies, too many perfect bloodsuckers of society. And while it is one of the noblest and most honorable and moral of occupations, I deem its high character as debased and insulted, when the official managers of its societies must be men who will make its fairs more attractive to gamblers and their kind than they are to the farmers and mechanics, more distinguished for moral virtues.

I have taken an active interest in such societies, when I could. But I have so often known the management of them to be in total disregard of moral right, and manly justice and fairness, that I have taken little active interest in them for years past. Instead of calling the fairs by such a name as an *Agricultural Fair*, many of them would more justly be called Horse Races, with characteristic accompaniments. The characters and inclinations of the men who manage the fairs, reveal the class and kind of men who have assumed, or are put in the lead with the societies. The last time I acted on a committee of judges, at our State Fair, I was on two or more committees, and tried to act honestly. I know that in the awards rendered by those committees, or in their name, there was an entire perversion of honesty. I know that an expression of judgment, perfectly unanimous, was overruled, and a false award made, to please pet parties. I despise all such things, and I know that true interests are not to be promoted thus. I would be glad to see agricultural interests in the hands of farmers. A. G. COMINGS.

Lee, N. H., April, 1871.

REMARKS.—It is true that the correspondents of the NEW ENGLAND FARMER have largely increased during the past twenty years, and so have the number and length of our columns. While we feel proud of our new contributors, we cherish with a tender fondness the recollection of those who wrought well in the foundation work of the present prosperity of the FARMER. On referring to the volume for 1851, we find at least ten articles by our friend and co-worker, and we think that no year has passed without some evidence of his continued interest in his "favorite paper." May that interest and co-operation continue—we were about to write—another twenty years; but, alas, how few of us who were banded in 1851 can expect to answer to the roll-call of 1891!

DESTROYING THE CABBAGE WORM.

It may benefit some one for me to say how I treated my cabbages last summer to destroy the worms. After trying many other things without success, I took a pail of scalding water and a pail

of cold water, then I poured about one quart of the hot water on the cabbage head so as to hit every worm, immediately applying about two quarts of cold water to the cabbage head. It killed the worms, but did not injure the cabbage. But the cold water must be applied immediately after the hot is, to prevent the head of the cabbage being cooked. SUBSCRIBER.

Greensboro', Vt., May, 1871.

BUTTER MAKING.

Perhaps you think the butter question is about used up, but as I have read the different opinions of others I want to express mine. I have sold considerable butter for one that has not had a large dairy, but has had a large family, and as my butter has seemed to give satisfaction generally, I think that I know what good butter is.

As to coloring butter, I prefer annatto. It gives no taste to the butter, as carrots do. It is much easier prepared, and when we can get it of a reliable druggist, it seems to be pure. I use no potash or soda with it. A lump one-fourth of an inch square will color one gallon of cream sufficiently. I put it in a rag and rub it all through in a little warm water, and then strain it through another rag or cloth kept for the purpose, and after my cream is in the churn I add the coloring water.

The past winter we have not had to churn our cream over twenty minutes, and many times not over ten, to bring the butter. I never scald my new or old milk to get cream from it. I think that I can get more cream not to scald it. I keep my milk and cream where they do not freeze. I keep a smooth stick in my tin cream pail to stir my cream with every day, and am careful not to leave any cream on the sides of the pail, as it would be likely to mould.

After we have made good butter, washed and salted it once, and the next day worked it over, in order to keep it good, it must be kept from the air either under brine or with a wet cloth covered with salt, for if exposed to the air too long it will spoil.

I have made butter for the last thirty-four years and I never had a mess of bitter butter. I once tasted of some at a neighbor's, but could not eat it.

Windham, Vt., April, 1871.

M. P. B.

HEN MANURE COMPOST FOR CORN.

I have about four barrels of hen manure. Now will you, or some of your correspondents, tell me the best way to prepare it to manure corn in the hill, and oblige at least one subscriber?

Orange, N. H., April 29, 1871. J. FERNALD.

REMARKS.—Moisten the droppings, and let them lie in a heap a few days, so that they will the more readily pulverize, and then mix thoroughly with two or three times their bulk of soil, muck or earth, and you will have a fine corn starter. We recollect of seeing or hearing the statement of some farmer that after softening the droppings he put them through a threshing machine to break all lumps, &c.

BARREN FIG TREES.

In answer to Mr. E. Bailey's inquiries about his wife's fig tree, I would advise smoking, while in full blossom, with old boots, shoes and woolen rags. We have smoked plums and cherries with good effect. If that don't do any good set out one or more trees with the one you now have, another year.

BUTTER MAKING.

I have been very much amused by the remarks about butter making. I will give a little of my

experience for about forty years. We have a large pantry with board shelves, on which are two strips of boards to set the pans on, and the shelves are a little distance from the ceiling, to let the air circulate around the pans. In warm weather we have the window out, but have blinds to darken and keep the pantry cool. Very much light I think gives the cream a lighter hue. We color with carrots when necessary, putting a little new milk with the carrot juice. This adds very much to the flavor. Every time I skim my milk, I stir the cream; but not every time I skim one pan. We never have white specks in our butter, nor trouble about its not coming quick. In cold weather we give it warmth and in warm weather keep as cool as possible. H. S. E.

Cuttingsville, Vt., April 29, 1871.

MANAGEMENT OF HENS.

Will Mrs. E. Cooper of Winchester, Mass., please state her way of managing hens—the feed, &c. I have a flock of twenty-seven which have done well, but not quite equal to hers. I began the winter with thirty, but three died of a disease which manifested itself in dullness, and in a stiffness and partial disuse of the legs,—for a prevention and cure of which I would be thankful. I have kept corn by my hens continually; and some of the time wheat screenings, the last lot of which was so adulterated with foul seed and dirt, that I concluded to supply its place with a mush of shorts. My hens will not eat oats, unless starved to it. They also have scraps, and chicken bone (Darling's fresh crushed,) for shells; and fresh water all the time. To prevent lice, I keep two boxes of ashes, one wood, and one coal, in which they wallow. I sprinkle lime in the nests once a week, and occasionally whitewash the roosts. For the sake of health, comfort and economy, I sprinkle dry loam on the manure, under roosts, every few days. When the weather was cool I fed boiled fresh fish heads instead of scraps, but in warm weather they soon spoil. Coal ashes, old plastering and gravel are lying around out doors for them. My worst trouble is, in not having a good hen house. This, however, will be entirely removed before next winter, when I shall try to equal Mrs. C.'s success. They go where they please, but my way of feeding limits their propensity for travel and mischief.

Franklin, Mass., May, 1871. R. A. FISHER.

OGDEN FARM.—The manager of this farm, who fills several columns of each number of the *American Agriculturist* with the details of his operations in scientific agriculture, has been asked, by some one who wishes to know if it will be safe for him to try similar farming, to give his annual balance sheet. After intimating that this is more than the public have a right to demand, he says:—

Some years hence, when I can show a profit, I shall have no hesitation in making a public exhibition of my accounts, for it would do good as an encouragement to others; but until I can show a profit in money, there would be no good end subserved by parading my balance-sheet.

HARROWING CORN.—An Iowa correspondent of the *Western Rural* says, as soon as the corn is up big enough to follow the row, take an "A" harrow, knock out the forward tooth, put a bow in the rear end of the harrow to manage it with, put on two horses, and straddle each row with the harrow, which will pulverize the ground, loosen it up,

kill all the surface weeds, and leave the ground in good shape for the cultivator. I then follow up with the two-horse cultivator, and go over with this three or four times, or as long as corn needs working. Be very careful to pull all the weeds out of the hills."

For the New England Farmer.

CUTTING AND CURING HAY.

There are many different methods of practice in this branch of farm husbandry, each thought by its adherents to be the best. Of course the object sought is to secure the hay crop in the best possible condition, to the end that the greatest amount of benefit may be derived from its consumption. There are very many conditions entering into the consideration of the subject, as early or late cutting, as regards the season, the manner of curing, whether in the cock or out of it, &c. No doubt extremes are run into in all cases. The hay is cut when it is too young or stands until it is too old—it is dried too much or secured in too green a state. There is probably no part of the farmer's labor that requires the exercise of greater judgment than this, since upon its successful accomplishment depends the condition and welfare of the stock. There is no one but that has noticed with what avidity the herd will devour the richly perfumed, well cured hay, and with what a disrelish they attempt to sustain life, perhaps by eating musty, unsavory fodder. Now is it not a question, whether hay can be cut too early, from this fact, that it is generally considered that the aftermath or rowen is the best hay that can be given to milk cows, increasing the flow of milk considerably more than the hay from more mature grass. It is said that in some portions of Switzerland where the fields are irrigated, as many as six or seven tons of hay are cut from an acre by cutting as many times, which is as soon as the grass has a fair growth, and long before it even arrives at the period of blooming. One thing is certain, that cattle, when left to roam the pastures and select their own food, instead of selecting the more mature portion as their free choice, invariably choose the younger and more succulent, so that, in time the pasture presents the singular appearance of being covered in parts with matured hay, and in others closely grazed; nor is this peculiar to cattle alone, since the same desire pervades the horse and sheep kind. So, then, the desire of animals so far as it can be expressed, seems to favor a young growth. Another fact, too, is frequently noticed, in the falling off in flesh, in the change from pasture to the stable, and *vice versa*, and again in the fall fattening of stock by pasture alone, which the most successful farmer would little think of doing by feeding of hay. Now all of this would seem to point to the necessity almost, to say nothing of the advantage, of cutting

hay while young and tender. Not that this should be done as early, or as often as in Switzerland, unless the circumstances require it, but with proper top dressing two good crops will be obtained which will be more valuable than to let the first crop grow until perhaps the seed is fully ripened, whereby only one crop is obtained. No one need hesitate for a moment regarding the palatableness of this kind of food for stock; for if they have any doubts let them place a quantity of both kinds before their animals, and they will soon find that the youngest cut hay, if properly cured, will be the first to disappear.

Undoubtedly these views may be at variance with many, but it is the interchange of views that brings to light the best methods of practice. Then let all present their own modes of practice and reasons therefor that the less experienced may have the benefit of that experience which otherwise, they will be obliged to purchase.

W. H. Y.

A MASSACHUSETTS FARM.

A correspondent of the *Boston Journal* recently wrote as follows to that paper from Draught:

"During our first visit to this ancient town we heard of a farm and farmer, which, upon personal observation, reminded us of what we had before seen on the prairie lands of the West. The estate lies about a mile from the 'Centre,' and two miles from Lowell, which is in full view. Mr. Milton Fox is the owner of five hundred acres, on two hundred of which he has this year raised two hundred tons of hay, one hundred tons of carrots and one hundred tons of Swedish turnips. Of these crops, the carrots are quite as profitable as any other. They were all off his hands as soon as ready for market, at twenty dollars per ton.

"He has five barns, 100 feet by 40, clap-boarded, painted and well fitted. He keeps four yoke of oxen, five span of horses and fifty cows. The ground is so thoroughly cleared of stones that the agricultural machines for harvesting can go anywhere over his well walled and highly cultivated acres.

"The farm house is a French roof mansion, with modern improvements. The crops raised last year will bring about \$12,000.

"Mr. Fox is a liberal, enthusiastic farmer, and his success a splendid illustration of what may be done by practical knowledge and enterprise on our comparatively hard and sterile New England soil."

THE MAPLE SUGAR CROP.—The *Montpelier Watchman* says: "The maple sugar crop of Vermont will be larger this year than for any one year during the past twenty, and will be a very important item in the productions of the State—even at the low price sugar brings now—the best being from 8 to 10 cents a pound."



GOLDEN BUERRE OF BILBOA.

Mr. Thomas says this fruit is also known in different sections as "Bilboa" "Hooper's Bilboa," &c., and that it is "rather large, obovate, slightly pyriform, rather obtuse, very regular; surface smooth, fair, fine yellow, russeted round the stalk; dots small, distinct; stalk an inch and a quarter long, slightly sunk; calyx small, erect, basin shallow; flesh fine grained, very buttery, melting, moderately rich—sometimes an obscure acid astringency. Ripens the first of autumn, and immediately follows the Bartlett. Shoots yellow, ascending."

This pear, though perhaps not entitled to the first place in a limited collection, has

merits which entitle it to rank as a popular fruit, and as a desirable variety in every garden where there is room for half a dozen pear trees. It does particularly well on the quince.

Our engraving was made from a specimen of the fruit furnished us by Messrs. James Hyde & Son, Newton, Mass., and we think the cut is as good as an illustration of the fruit, as it is of the skill and workmanship of the artist.

—A correspondent of the Iowa *Homestead* says that he has discovered the canker worm in eleven counties of that State.

For the New England Farmer.

SHEEP RAISING.

The question is often asked, is sheep husbandry profitable, and the answer is not always very favorable. Location has much to do with the decision of this question, but care and feed has much more. Sheep need a favorable locality as regards pasturage, suitable care and the necessary amount and kind of fodder. Mutton, lambs, and wool are the three important objects in sheep raising. Therefore in this climate, the winter care of sheep often practically settles the question of profit or loss.

In agriculture, as in other things, theory is of no account, unless it will stand the test of experience. Practical facts are what farmers want. They are matter of fact people, and though liable to be humbugged, they are satisfied with nothing short of experimental truth.

It is not my present intention to write an essay on sheep husbandry, but to answer the question so often propounded in the columns of your paper, How shall I feed my sheep so as to keep them in good order, ensure strong, healthy lambs, and a large clip of wool?

I have no theory to offer, but will state a few facts drawn from personal experience and from observation of the practices of our best farmers. The first great point is to have good healthy sheep, not over seven years old, nor less than one, in fair condition when they come to the barn; and be sure and have them come to the barn before they get poor on the scanty frost-killed grass to be found at that season of the year. Then do not force them to support life on poor, dry, late-cut hay. To be sure, sheep will live on such fodder, but it robs the carcass of all its juices; the flesh decays, and the wool becomes thin, dry and lifeless. I pity the poor sheep that have one of those owners who think sheep will live on anything. Give them good early-cut hay, and enough of it, but none to waste. If you allow sheep to waste fodder in the first days of winter, they will by and by utterly refuse to eat their hay up clean, and will be likely to lose their appetite, and grow poor on the best of feed. If early-cut hay is not to be had in good supply, roots must take its place; in fact, they are indispensable to the health of the sheep.

An abundance of good pure water is as necessary for sheep as for other farm stock. Give them a good dry airy pen, away from cattle, horses and hogs, so that they can live a life of ease and comfort, and they will reward you for all the care you give them, and the cost of keeping.

It is not usual for our farmers here to keep large flocks of sheep. We have but few flocks above fifty in number,—from twenty to thirty is about the average of those who believe in keeping a general assortment of farm stock, and make a specialty of none.

Now for a few facts and figures. Osgood Brown of West Bethel, a well-to-do farmer, keeps about thirty sheep, yearly, and has kept sheep for fifty years. When sheep were but one dollar per head, and wool but twenty-five cents per pound he kept sheep, and when sheep were worth from five to eight dollars each, and wool one dollar a pound, he still kept about his usual number,—never excited and never discouraged. He has now among his flock descendants of the first sheep he ever owned, about fifty years ago. He never changes his flock. His rule is, keep the best; never allow the drover nor butcher to pick the flock; but when they are high, keep the best; and when they are low, keep the best,—never be cajoled into selling the finest lambs, because they will bring a little more money.

His rule as to feeding his sheep is as unchangeable as the law of the Medes and Persians. He gives them a good hilly pasture, and when the snows come he drives his flock to the barn, and suffers them no more to roam till grass grows again next season. Their food is usually good hay and enough of it; yet they have to eat their share of the coarse fodder during the coldest weather. They are fed morning and night, on the snow, in a large yard, sheltered from the cold winds, and supplied with running water. During the day, they are kept in a good comfortable pen, dry but airy. His lambs are dropped from the middle of April to the tenth or fifteenth of May. He saves a good mow of early-cut, nicely cured clover hay for spring, which he commences to feed out about the fifteenth of March, or one month before dropping the lambs. The first day of April he commences to feed to his thirty sheep one-half bushel of potatoes and one-fourth bushel of oats, and when the lambs begin to drop, he gives one bushel potatoes and one-half bushel of oats daily,—fed regularly after eating their hay,—say nine o'clock in the morning. His sheep are always in good order; have an abundance of milk, and lose but very little wool. In 1869, of twenty-seven lambs dropped, he raised twenty-six, and on the 10th of August sold them for \$3 a head. His sheep yielded $4\frac{1}{2}$ pounds of wool each, which brought forty-five cents per pound. In 1870, from twenty-seven sheep he raised twenty-six lambs, which brought the first of August \$3 each, and his sheep sheared four pounds two ounces each of wool, which in June was worth forty-four cents per lb. These are dry facts, and all can draw their own conclusions.

Elijah Wheeler, of Albany, another successful farmer, keeps about the same number of sheep, and feeds in the same way, and is about equally successful.

George W. Grover, of Bethel, in 1869, kept about the same number of sheep, fed meadow hay during the winter, and a quart of Rutabaga turnips every other day. His lambs were dropped in March. He then fed oats

RADISHES.—Seed may be sown among other crops, where they will be partially shaded. Leave a few early for seed.

TOMATOES.—Transplant into well-prepared soil for the main crop. Try a few trained to stakes, keeping all side shoots pinched in short. Trained thus they may be set nearer together and they are said to bear and ripen better. Guano and liquid manure promote rapid growth.

WEEDS.—No good gardener will need any prompting here. Seed is so easily disseminated and in such a variety of ways, that so long as there are careless gardeners, farmers and unimproved land, they will be a source of continuous annoyance to the neat, practical cultivator. Vacant spots are a standing reproach, and will not be tolerated in any well-kept garden.

SMALL FRUITS.—Blackberries and raspberries,—keep all canes and new growth properly tied to stakes or trellises. Cut out and keep down all new shoots, except such as are wanted for next year's bearing, or for increased planting. Thin the clusters, where large, nice specimen fruit is desired.

CURRENTS.—Keep the ground well cultivated and free from weeds. A good mulch about the roots will prolong the season of fruits, as well as add to its value.

GOOSEBERRIES are better for having the ground around kept a little moist, and the bush and top open to air and sun.

STRAWBERRIES.—As soon as the crop is off, clean out all grass weeds, &c., and keep the runners cut clean; hand-pick and destroy the worms that destroy the foliage.

W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

FARMERS SHOULD BE EDUCATED.

BY EMORY A. ELLSWORTH.

It has been the prevalent opinion among all nations, since men began to be educated, that learning and mental culture were utterly useless to the farmer in the pursuit of his vocation; and not until very recent times have men awoke from this absurd delusion to the fact that education is of the greatest importance to the successful pursuit of husbandry.

About fifty years ago Europe began to apprehend this truth, and founded many schools for the advancement of agriculture and the training of young men for the successful pursuit of this most difficult and complicated art. But in the United States, and especially in Massachusetts, where general education is so highly esteemed, and where institutions of learning are so numerous, this subject is still considered of little importance, and receives slight attention from the mass of the people.

It is a mystery how this idea has so long held its sway against the powerful current of advancement in science; but it is apparently

owing to the hereditary ignorance and unreasonable prejudice against learning of that large class of our citizens, known as the "practical farmers," who, being ignorant of the first principles of science themselves, have exerted their influence to prevent this great forerunner of progress from affecting their vocation.

There is a notion among this class of people, that uneducated men are by far the better workmen, and in proportion as they become educated, in like degree they become *lazy* and unwilling to perform manual labor. This notion probably arose from the fact that educated men rarely turn their attention to manual labor, for the reason that their services are much more needed in educating others, than in the province of agriculture or the industrial arts. Perhaps it would be more proper to say better remunerated, since well informed men are few; but wherever intelligence is combined with manual labor, improvement and advancement are certain to follow.

Since practical farmers have ever ridiculed and scorned the idea of accepting book-farming to direct their efforts, how could men of science intrude into the domain of agriculture? This seems to be the prevailing opinion of those who till the soil, and this also accounts, at least in part, for the undeveloped condition of the science.

Agriculture was the primitive employment of men. Long before the condition of society called for the other useful arts, it was the prominent and almost the only branch of industry. King and subject, master and servant, labored together in the field or vineyard, or watched their flocks and herds, side by side, on the plains of Palestine. Agriculture, though the oldest, is nevertheless the rudest of all the useful arts.

Now why is this? It is partly because the farmer has been working blindly, disregarding all the guide books which would direct him to success, if he would only consult them. He has labored on until discouraged for want of success, he has turned his attention to other fields of labor, or still plods on in darkness to obtain but the bare necessities of life.

The laws of nature furnish the key to progress in agriculture, and not until these are understood can the farmer expect reward for his efforts; not until these are fathomed can men till the soil with an intelligent object in view.

About the beginning of the present century the labors of scientific men were first turned to the condition and improvement of this much neglected branch of industry, and to-day, by the light thrown upon it by modern discoveries, agriculture can obtain a place among the sciences. In many departments it is no longer a blind experiment, but a positive science. It is no longer a bewildering mass of uncertainties, but leads to satisfactory and unmistakable conclusions.

How unjust has been the prejudice with which practical farmers have regarded book knowledge in farming! Books, indeed, are not ploughs, teams nor laborers; yet they direct and guide the working of each. Does any wise traveler disregard the guide board or book because it does not furnish him with a mode of conveyance? Their only office is to direct; and likewise the principles of science and the laws of nature are but the guides to successful husbandry, and the farmer who expects success from *books* without *labor*, or from mere *labor* without the guide of *books*, is foolish.

In no calling at the present time are intelligent and educated men needed as much as in agriculture. Men acquainted with chemistry and the other natural sciences and their applications; reasoning and thinking men, who are capable of carrying out plans and experiments on a thoroughly scientific basis. These must enter the ranks of the practical husbandmen before this branch of industry can be raised to its proper level, or brought to anything like perfection.

We have theories on agriculture without number laid before us every day, either through the medium of agricultural papers or by lecturers; a multitude of non-conclusive experiments have been made and circulated, yet there is hardly a point in all our system of American agriculture settled on a firm and satisfactory basis.

In view of this, should not our farmers be educated so as to be able to ascertain the true from the false, and to be able to settle those many disputed points, and as well to be capable of applying the principles of science to their daily work.

The social position of farmers as a class, is far below the level they should hold; for in no industrial class are there found so many specimens of a truly noble character; so few addicted to the tricks and vices of the world, as in the class of the hard working farmers. Examine the criminal lists brought before our courts of justice, and how few you will find who came from the farm.

Now, since among the farmers there can be found so few of those degraded and unprincipled men, why is it the popular idea that they are beneath the level of society in general? Why is it that a person engaged in a liberal profession is more honored than the husbandman on whom the world has to depend directly for support? It is because *mind* is the recognized king over *matter*; it is because of the natural homage which the world pays to education. Therefore give the farmer a full acquaintance with all the laws and principles of the sciences connected with his art, and you will raise him to the level with the most brilliant intellects of the honored professions.

This contempt for the farmer and his vocation is unjust; but still more unjust are the contempt and scorn with which the mass of

farmers look upon education as connected with their business.

Therefore, the active farmers of the State should cast aside these narrow and prejudiced views of the most important subject, and spend more time than heretofore in the reading of standard agricultural works, and thus be able to understand the subject with which they have to deal. The young who are just entering the field should appreciate the unspeakable importance of understanding thoroughly all which can be learned from books, and thus derive all possible benefit from the experience and knowledge of others. Therefore, prepare yourselves faithfully and well, before assuming the responsibilities of your profession.

Amherst, Mass., April 3, 1871.

COOKING FOOD—WINTER BUTTER.—We are still (March 21,) cooking food for pigs. It is a good deal of work, and it is doubtful whether the *saving of food* would pay for the expense. But I cook to *save digestion* rather than to save food. I want to enable the pigs to eat and digest more food. And if cooking will do this, it will pay. Cooking does not increase the amount of nutriment in the food. It may make it more palatable and more easily digested—that is all. I am inclined to think that the assimilating powers of a well-bred pig are greater than his digestive capacity. If they are not, there is little to be gained by cooking the food.

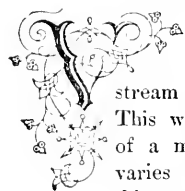
We are still feeding our cows cooked corn-meal—say three quarts of meal per day to each cow. I am satisfied that it pays. We have made just as nice yellow butter all winter as I wish to eat—*better* butter than we make during the hot summer weather. I am inclined to think that the best time to have cows come in, where nothing but butter is made, would be in September, and let them go dry during the hot weather of July and August. We should then have plenty of skim-milk, just when we most want it, for young pigs. And the cows would run in the pasture, and require no milking during the busy season of harvest.

—*J. Harris, in American Agriculturist.*

GRAFTING-WAX.—As the grafting season is upon us—April being by far the best time for this operation—we may as well repeat our recipe for making grafting-wax, which is simply to take two pounds of rosin, ten ounces of beeswax and one gill of linseed oil, stew it well till the mass is completely dissolved; apply it to the grafts while warm with a stiff brush or pine-paddle, so that air and water are completely excluded. The consistency of the wax should be such that it will not be so hard as to crack in the cool winds of spring, or so soft as to run in the warmest weather of summer.

Any smaller or larger quantity can be made by using the above proportions.—*Exchange.*

WET LANDS.



VERY recently we stood looking upon a narrow valley of wet land, with a stream meandering through it. This was in former times the bed of a mill pond. The low land varies in width from three to thirty rods. It belongs to perhaps a dozen individuals who are the owners of the hard land abutting upon it. The stream comes from a swamp, perhaps a mile and a half distant.

This low land has all been cleared up, not a stump or clump of bushes can be found upon it. Much of it has been dressed with sand and gravel. Portions of it have been ploughed and sowed with herdsgrass and red top, and dressed with manure. It is all in grass, yielding large crops of hay; most of it is mowed twice a year. Where it is top dressed once in two or three years, the hay is of the best quality. Where it is not, the meadow grasses come in rapidly and mix with the sweet grass, showing the tenacity of life which the meadow grasses possess.

There is no more valuable land in the vicinity,—it requires attention and some labor to keep it in good condition, but the increased value of good hay over that of the meadow hay, will well repay the cost and labor of top dressing.

Another instance occurs to us in which a gentleman owned a piece of wet meadow which was overflowed two or three times a year—the water often remaining upon it many days. This could not be drained. But there was a bank of sand and gravel adjoining it. The owner covered a portion of this meadow with this sand and gravel in the winter, when the soil was frozen. In the spring he sowed it with herdsgrass and red top, spread on a small quantity of manure and harrowed it smooth, and cut several large crops of good hay in succession. Where he cut a small quantity of sour meadow hay before, he now cuts three tons to the acre of fine hay.

You will say this is not permanent improvement of land; it will soon run back into the condition of meadow land. True, it will require attention. It must be top dressed with upland soil or manure, or both, and perhaps re-seeded once in two or three years, and this implies labor and expense. But what land

can you keep in good condition without labor and expense? Light upland soil will require twenty-five or thirty loads of manure to be teamed on to it. It must be ploughed and sanded and harrowed, and this process must be repeated once in four or five years, and then you will get one ton of good hay to the acre; whereas you would get two tons on the meadow, and in addition to the cost of the labor, there is the value of the manure which you want for other crops than grass.

The upland soil which you put upon the meadow costs nothing but the labor. The actual cost of keeping such a piece of meadow in good condition, is less than that of keeping a light sandy soil in good condition; the improvement is quite as permanent, and the profit much greater.

There have been many pieces of meadow land reclaimed in this way, as experiments; and although the experiments have been successful,—that is, have well repaid the labor,—they have been neglected, and suffered to run back into their former condition. Their owners have been disappointed, because the improvement has not proved permanent. They expected that good grasses once rooted in the soil would continue to yield good crops for many years.

But have they any land that will do this, without a constant renewal of the elements of fertility in some way? Even the rich wheat lands of the West soon become exhausted without top dressing, or bringing up from below new strata of soil to be oxydized by the atmosphere and fitted to add new elements of fertility to the seed bed of the wheat.

There is no crop so easily renewed and kept in good condition as grass. A dressing of fresh unexhausted soil will produce for grass the same result that a dressing of manure will produce for most other crops. The soil,—it may be mostly sand thrown from a deep ditch and left exposed to the frost and air for a year or two, and then spread upon the adjacent land,—will sometimes increase the quantity and improve the quality of the grass surprisingly. The gravel and clay from a well or the bottom of a cellar, spread upon grass, especially if the soil is moist, will sometimes produce wonderful results.

Does this show the advantage of deep ploughing, especially of deep fall ploughing,

by which new soil is exposed to the oxydizing influence of the atmosphere and pulverized and fitted to yield its accumulated fertility to the coming crops? The best time to reclaim wet lands in this way, is while the ground is frozen. The team can then readily work upon its surface. The frost will not prevent the taking of the sand or gravel from the bank or pit in the spring, the grass seed may be sown and the harrow or brush may smooth the land.

Every patch of meadow thus treated is so much added to the farm, and every ton of hay thus procured adds so much manure for the cultivation of other crops.

FORTY SIGNS OF RAIN.

An excuse for not accepting an invitation of a friend to make an excursion with him.

1. The hollow winds begin to blow;
2. The clouds look black, the grass is low;
3. The soot falls down, the Spaniels sleep;
4. And spiders from their cob-webs peep.
5. Last night the sun went pale to bed,
6. The moon in halos hid her head;
7. The boding shepherd heaves a sigh,
8. For, see a rainbow spans the sky;
9. The walls are damp, the ditches smell,
10. Closed is the pink-eyed pimpernel.
11. Hark! how the chairs and tables crack,
12. Old Betty's joints are on the rack;
13. Loud quack the ducks, the peacocks cry;
14. 'The distant hills are looking nigh.
15. How restless are the snorting swine;
16. The busy flies disturb the kine;
17. Low o'er the grass the swallow wings;
18. The cricket, too, how sharp he sings;
19. Puss on the hearth, with velvet paws,
20. Sits wiping o'er her whiskered jaws,
21. Through the clear stream the fishes rise,
22. And nimbly catch th' incautions flies;
23. The glow-worms, numerous and bright,
24. Illum'd the dewy dell last night.
25. At dusk the squalid toad was seen,
26. Hopping and crawling o'er the green;
27. The whirling wind the dust obeys,
28. And in the rapid eddy plays;
29. The frog has changed his yellow vest,
30. And in a russet coat is drest;
31. Though June, the air is cold and still,
32. The mellow blackbird's voice is shrill,
33. My dog, so altered in his taste,
34. Quits mutton-bones, on grass to feast;
35. And see, yon rooks, how odd their flight,
36. They imitate the gliding kite,
37. And seem precipitate to fall,
38. As if they felt the piercing ball.
39. 'Twill surely rain, I see with sorrow;
40. Our jaunt must be put off to-morrow.

—Dr. Jenner.

GROWTH OF FORESTS IN NEW ENGLAND.—To encourage farmers to fence off a portion of their poor pastures for the growth of wood, Mr. J. Lawrence, in his address at the meeting of the Vermont Board of Agriculture at St. Johnsbury, said, "there are a few acres of high land about one mile from this village, almost in sight from those western windows, that sixty-four years ago grew a good crop of corn, planted among the logs, Indian fashion. The owner dying, it was left to itself. It grew up again to wood. It has been twice

thinned out, much good wood being taken from it, and now has 150 sugar trees to the acre that have been used as such for six to eight years. That maple grove is admired by all who see it, and \$200 per acre would no doubt be refused by the owner to-day."

AN UNSUCCESSFUL FARMER.

It is a more common practice, as well as a more desirable one, to speak or write about successful than unsuccessful farmers. But there may often be as much profit to be gained from learning the faults and mistakes of men, as from their successes. In the town of — I once knew a man whom I will call Smith, and though there are many Smiths in the world, there are at least an equal number of farmers who resemble this man in their mode of farming. When he was a young man and worked out for a living, no better help could be hired. He was stout, healthy, active and willing to work. Soon after marrying a wife, he purchased a farm in not a very inviting region for agriculture, and still less favorable for good society. The place was a small one, with a soil in not a very good condition, and not very easy to till. The buildings were poor and were suffering sadly for want of repairing. Perhaps many may say there was not any chance for a young man to succeed under such circumstances; but was it impossible? I will acknowledge that this person was not successful in his farming; but what were the reasons? He did not seek to improve his farm, by removing the stumps and stones, by enriching the soil, or by making his buildings more comfortable and beautiful. Though he labored hard during the first few years, he did not work for his farm. He would have a threshing machine or a sawing machine and spend a great deal of time in threshing grain, or sawing wood, or doing something for some one else beside himself. For these jobs he did not get very large pay, but perhaps as much as any day laborer could get at hard work. But notwithstanding he owed but little for his farm when he purchased it, at the end of ten years I think the debt had increased instead of diminishing. By working for other people he had to neglect his own land. He raised only produce enough for his own family, and what he received for his wages was scarcely sufficient to pay his other expenses of living; and consequently his accumulated property received no increase from year to year. His farm was diminished in value, therefore he was making nothing by way of rise in real estate. He being more interested in people and things away from home than at home, he not only failed to care for his farm, but was negligent in providing for his family. The store or bar-room had more attractions to him than his own fireside. Instead of enjoying the luxuries at home, which he might have done by cultivating fruit trees,

or by raising berries, &c., he satisfied his appetite by partaking of those imagined luxuries which are found at taverns and saloons. Instead of trying to make home happy he made it a place of sadness.

Now I believe that this man might have paid for his farm in a short time by spending all his time and energies upon it. Instead of digging among the stones for a few bushels of potatoes and corn, and gathering thinly scattered spears of grass from a rough mowing, he might have harvested good crops from a smooth surface and a good soil. His cattle instead of growing poor for want of proper shelter, might have been made fat by nailing the loose boards on the barn and by regular feeding, not by his wife but by himself. His family might have been made as intelligent, comfortable and happy as any other family by giving them books and papers to read, sending the children to school, and going with them to church, by making the house convenient and attractive, and by attending to every other home improvement possible. By so doing he might also have increased in wealth.—*C. H. Farnsworth, in Vermont Farmer.*

WHITEWASHING.

Good whitewash, well-applied to fences, rough siding, and the walls and ceilings of buildings, has a highly sanitary influence, as well as being in the highest degree preservative in its effects. To be durable, whitewash should be prepared in the following manner:—Take the very best stone-lime, and slack it in a close tub, covered with a cloth to preserve the steam. Salt—as much as can be dissolved in the water used for slacking and reducing the lime—should be applied, and the whole mass carefully strained and thickened with a small quantity of sand, the purer and finer the better. A few pounds of wheat flour mixed as paste may be added, and will give greater durability to the mass, especially when applied to the exterior surface of buildings. With pure lime, properly slacked and mixed with twice its weight of fine sand and sifted wood-ashes, in equal proportions, almost any color may be made by the addition of pigments. Granite, slate, freestone and other shades may be imitated, and without any detriment to the durability of the wash. This covering is very often applied and with good effect, to underpinning, stone fences, roofs and the walls of barns and other out-buildings.—*Germanatown Telegraph.*

SALES OF IMPROVED STOCK.—Wm. Williams, manager of A. W. Griswold's Short Horn herd at Malvern Farms, Morrisville, Vt., reports recent sales of the following bulls: To W. F. Vail, Emporia, Kansas, Climax 4th, 9640; to Wm. F. Blanchard and another, Manlius, N. Y., Royal Bridegroom, 10913; to Henry M. Arms and others, Springfield, Vt., Crown Prince, 9701, and The Baronet, 11057;

to D. L. Wright & Sons, Weybridge, Vt., Sultan, 9173; to C. P. Hatch, Brandon, Vt., Constantinople, 7754, and to Mr. Bryant of Vermont, Malvern Boy, 6995.

A RICH MAN'S GIRL.—Here is a girl who happened not to be born poor. Her father is rich enough to live in Fifth Avenue; but he does not live there. He gives her all the advantages of city education which she chooses. Eight months in the year she spends in home duties, charities, parties, concerts, operas, theatre, her own music and the like. But in the other four months she lives her own true life. She has found a pure country town, undiscovered yet by the tourists; and there she goes, with a bloomer dress, and lives on a farm and works like a farm-hand—up in the morning with the men, helping take care of the animals, then to the fields to work with them, driving the oxen and pitching the hay. She has a very definite idea of perfect earthly happiness. It is to raise animals on a stock-farm; and, if she were thrown on her own resources, I have no doubt she would do it. No starving over the needle or stooping behind the counter for her. And yet she is no Amazon; but a pure, womanly girl, without a grain of coarseness, a true lover of nature, with an insight almost like Thoreau.—*Gail Hamilton.*

THE HERMIT-CRAB OF THE MARQUESAS.

Low trees or shrubs, called bay-cedar, completely cover these islands. Crawling upon the branches were great numbers of hermit-crabs, each with his stolen coat upon his back. This is truly a *freck* of nature. Many of the species are aquatic, but this one is terrestrial, and does not go into the water. With eliest and arms of formidable strength, this creature ignobly tapers to a soft, worm-like posterior. Like Richard, not shaped for sportive tricks, curtailed of fair proportion, cheated of feature, deformed, unfinished, sent before its time into this breathing world scarce half made up, it seeks to usurp and intrench itself within the castle of another knight of the shore.

As soon as the young crab has attained sufficient size and strength to assume its wonted responsibility, and struggle for existence, it forthwith looks about for "its size" among the cast off univalve shells; first thrusting a long claw into the chambers to make sure that all is well and the castle vacant. Should a smaller or weaker knight of his order chance to be the occupant, battle is given at once. The sally-port is closed by the stont mailed arms, and the castle held strictly on the defensive as its only safety. The ambitious knight is on the alert, however, and eventually succeeds by strategy. The weaker party relaxes a little, and peeps forth to survey the field. A well-aimed blow and

quick passage of arms place the incumbent *hors de combat*; he is dragged from the gates, and quick as thought the conqueror throws his rear within the castle, winds up the spiral turret, and presents a bold front of mailed armor at the gate. This strong-hold is held unless some party yet stronger gives battle anew.

These hermit-crabs are exceedingly pugnacious, and seemed to be continually disposed to rout and plunder. Several large ones were sent North, packed in a small box. One individual remained; he, the strongest, had devoured all that was edible of the others, leaving only the shells and claws. The survivor was kept under a glass bell for a year. He moulted once successfully, casting a perfect shell, an exact fac-simile of himself; but he died in the act of casting the second time. This crab became quite tame; eating from the hand, and remaining partially out of the shell when touched, though usually they remain "closely mewed up" when approached.

It is a ludicrous sight at times, when great numbers of these creatures congregate about a carcass, or climb the bushes after a rain to sip the moisture from the hollow leaves. An officer of the post at Tortugas, lately arrived, filled his pockets with the pretty shells so profusely scattered upon the keys. On landing at the wharf, homeward bound, he was much surprised at the manifestly improper expression that met him in every face of the guard, from sergeant to private. A friendly voice called his attention to the crawling multitude which now well-nigh likened him to the tawdry shell-work of frames and fancy boxes. The crabs, in many instances, can retire within the shell so far that they are not readily observed. One, enthusiastic in his first blush of delight at finding so large a number of pretty shells so near each other, is quite likely to fill his pockets greedily, without stopping to examine them, then and there. The shy creatures withdraw, and hug closely the inner chamber of the shell the instant a footstep is felt, and so remain until all danger is past—hence the possible mistake of which our friend really became the victim. An amusing sight was afforded in the office of the engineer in charge at Fort Jefferson. The officer—now our distinguished Quarter-master-general—had a large number of these crabs, from the largest to the smallest, placed upon the floor. Then commenced a novel scene—battles and combats, sparring, and rough-and-tumble fights; while numbers of them crawled upon the walls, and manifested every phase of curiosity by examining closely all parts of the room. A large species, which usually selects the turbo, a shell about the size of a large tea-cup, had the habit of living under houses or logs, and seemed to sally forth more at night. Occasionally they would crawl into the house. One particular individual became notorious as a constant visitor, and regularly

crawled up the corner of a book-case to drink water from a dish—never, of course, leaving his shell behind. They present an exceedingly grotesque appearance shambling along with their heavy stolen shells. Diogenes must have learned his habit from these creatures. Some naturalist has given the philosopher's name to one species.

These hermits seldom adopt an imperfect shell; but the height of the ludicrous was reached when we discovered an individual ensconced within the bowl of an old black clay pipe nearly stemless. It required all the tact the poor weak abdomen could muster to keep a sure tenure of possession. Commiserating his forlorn condition we gave him a chance to change quarters—an opportunity which he seized with alacrity; not unlike in that respect some in the army who delight in "turning each other out according to rank." The hermit is opposed to "commutation of quarters," and takes his "in kind"—*casemates* though they be, of *one story*, and *no back window*.—From "Along the Florida Reefs," by Dr. J. B. Holder, in *Harper's Magazine* for April.

GIVE THE BOYS A CHANCE.—One of the surest methods of attaching a boy to the farm, is to let him have something upon it for his own. Give him a small plot of ground to cultivate, allowing him the proceeds for his own use. Let him have his steers to break, or his sheep to care for. The ownership of even a fruit tree, planted, pruned and brought to bearing by his own hands, will inspire him with an interest that no mere reward or wages can give. In addition to the cultivation of taste for farm life which such a course will cultivate, the practical knowledge gained by the boy will be of the highest value. Being interested, he will be more observant, and will thoroughly learn whatever is necessary for his success.

Another and equally important advantage will be the accustoming him early to feel responsibility. Many young men, though well acquainted with all the manual operations of the farm, fail utterly when entrusted with the management of an estate, from want of experience in planning for themselves. It is much better that responsibility should be gradually assumed, than that a young man should be first thrown upon himself on attaining his majority.—*Cor. Ohio Farmer.*

IRRIGATION.—Dr. March in his lecture on "Spain and the Pyrenees," says that land irrigated in Spain will sell, everything else being equal, for \$500 an acre, while that alongside of it, not irrigated, will only bring \$50 an acre. One company organized in Madrid with a capital of \$1,500,000, has reclaimed 300,000 acres of land, and are paying dividends equal to 18 per cent. on the investment.

ROTATION OF FOREST TREES.



AMONG farmers there has been much speculation as to the cause of rotation in forest trees. It is well known that when a forest is cut off, it is not usually succeeded by a growth of the same kind of wood. If hard wood is

taken off, it is succeeded by soft wood,—pine, white or yellow, hemlock, and sometimes in low land by spruce or hackmatack. If the growth removed was of the latter varieties, then oak of several kinds, maple, beech, walnut or chestnut may succeed.

Various reasons are given for this change. Mr. THOREAU, the author of "Walden," "A Week on the Merrimack River," and other works, was in the habit of passing much time in the woods and fields, and was a constantly interested observer of the operations of nature. In one of his works, entitled "Excursions," he states the opinion that the rotation of forests is occasioned by the "transportation of seed from where it grows to where it is planted." "This is done chiefly," he continues, "by the agency of the wind, water, and animals. The lighter seeds, as those of pines and maples, are transported chiefly by wind and water; the heavier, as acorns and nuts, by animals."

Suppose that an oak forest of ten acres were removed, is it probable that the winds would carry seeds of the soft woods so as to plant that precise ten acres, and no more? Why not disperse them over only a portion of it or scatter them beyond, over fifteen or twenty acres? It is not unusual to find a ten acre forest of hard wood succeeded by soft wood, over nearly the same limits; not much less, and not much more! The winds do not probably spread the seeds of plants with such mathematical exactness.

It is true, that adjacent to a forest of pines, if other crops are not growing there, there will be an extension of pine forest if the soil is suited to their growth. So in a growth of walnut or oak, squirrels may carry nuts away and bury them in the soil, but as these are hidden for future food, they would not be likely to be in sufficient quantity to start up a new forest. But the truth is, they do not generally take the nuts away from the forest and hide them, but place them in cavities in the trees themselves, or in the ground under them. So the blue jays, and other birds, hide nuts, but *in* the forest, rather than away from it. In smaller fruits, such as cherries and the seeds of raspberries and blackberries, birds swallow the whole fruit, and drop their seeds in every direction. Neither the birds nor beasts, however, take them to well defined limits and deposit them, so as to bring plants of an entirely different kind from those which preceded them on the same ground.

Now as to what nature has been doing in the myriads of years of her operations, we know but little. In the different orders of plants which have subsisted upon the surface, and at length mingled again with the dust from which they were formed, it is probable that the seeds of each may have been shed upon the soil. In the great changes which have taken place upon the surface by the agency of earthquakes, tornadoes and floods, these seeds may have been so thoroughly mingled with the earth as to furnish all sorts of seeds of plants which are indigenous to the region, throughout every portion of it, whether near the surface or vastly below it.

This, we believe, is the common theory. We have found only one person who states it as his belief, that creation is *now* constantly going on; that the seeds of plants which covered the earth thrown out from forty feet below the surface, in digging a well, were *then and there created*, and did not exist in the earth when it was thrown up!

The prevailing opinion, however, among the most intelligent writers, is, that this change takes place in consequence of the *exhaustion in the soil of those elements of nutrition which are indispensable* to the healthy growth of the plant. That the natural law is, "that where other circumstances of climate, moisture, &c., are equal, the natural vegetation—that which

grows best on a given spot—is entirely dependent upon the chemical constitution of the soil.”

But both the soil and the vegetation which it nourishes, according to Prof. Johnston, are seen to undergo slow but natural changes. Lay down a piece of land to grass, and after a lapse of years the surface soil—originally, perhaps, of the stiffest clay,—is found to have become a rich, light, vegetable mould, bearing a thick sward of nourishing grasses, almost totally different from those which naturally grew upon it when first converted into pasture. So in a wider field, and on a larger scale, the same slow changes are exhibited in the forests.

Occasionally we see on a tract where pines have been cut down, the land burnt over and then cropped with rye, that birches and other growths will spring up, but after awhile young pines will appear again and take the lead. This seems to be a proof that the elements of nutrition which sustained the pines had not been exhausted, as the pines usurp their former dominion and soon smother the birches and other growths out. We have seen examples of this kind occurring where a vigorous growth of comparatively young pines were cut down.

In relation to these changes the writer referred to above, says:—

“We may take a practical lesson from the book of nature. If we wish to have a luxuriant vegetation upon a given spot, we must either select such kind of seeds to sow upon it as are fitted to the kind of soil, or we must change the nature of the land so as to adapt it to our crop. And even when we have once prepared it to yield abundant return of a particular kind, the changes we have produced can only be more or less of a temporary nature. Our care and attention must still be bestowed upon it, that it may be enabled to resist the slow, natural causes of alternation by which it is gradually unfitted to nourish those vegetable tribes which it appears now to delight in maintaining.”

DOES A DRY WINTER INDICATE SHORT CROPS?

Some persons are predicting that the winter drought in New England is a pretty sure indication that the coming summer will be a dry one, and that short crops will be the result. It is quite certain, we think, that if the spring rains are withheld through the latter part of April, and all through May, that the most abundant summer rains would hardly compensate for the loss of the former. It is not probable that the mechanical or chemical operation in the soil, whereby plant food is

supplied, is the work of a day or a week. The process of preparation of food, digestion, or whatever it may be, we take it is carried on in the soil, so that when the root receives it, it is true sap-food, and passes on as such to the leaves where it is elaborated into substances which are to form its own kind, whether it be the poison hellebore or the delicious peach.

If this “be true,” then the soil needs continuous rains, so that active operations may be constantly going on in it, to make ready the food which plants must have, or cease to grow.

Cases have been recorded in England and in other countries, where winters of unusual droughts were followed by short crops. In Algiers, and in the lower plains in that region a few winters ago, the drought was very severe, and the succeeding summer a famine was the result.

Those who plant under these convictions, will do well to select moist land, plant early and cultivate highly, so as to carry crops forward rapidly, and if possible, beyond the reach of a drought.

For the New England Farmer.

HAY AND STRAW.

Is it good policy for New England Farmers to make a specialty of any crop?

It may appear presumptions in me to advocate a practice that is so generally condemned, and the converse of which is generally advocated by yourselves and your contributors. I think, however, that with some few exceptions, the great changes which have taken place and are now in progress in our country, in the interchange of commodities, and especially of farm products, have greatly altered the question we are now to consider. We are not so much competitors in our markets with our immediate neighbors as with the products of the people of remote States who come to our very doors with theirs, by means of the facilities we have in large measure made available for their use, and by which facilities we are discriminated against, and the distant States encouraged. We do not propose to discuss this apparent injustice to ourselves now, but rather to look at the consequences of our markets being furnished in a large degree from sources remote from home. We ought not to object to this being so, for in itself considered it is very proper in every respect. There should ever be unrestricted markets and free interchange of products within our country's limits. By reason of this reciprocal interchange alone, can we be in any true sense *one*

nation. No two sections of our country are alike in their adaptability to the production of the various textile plants, grains, grasses, fruits, vegetables, &c., &c. Our home markets are unlike, also, in many of their requirements. The immediate vicinity of our cities are expected to furnish those cities with the vegetables, milk, &c., they consume; but how very few, if any, are thus supplied. Various causes combine to prevent it, which it is useless to enumerate here, because we propose to look at the markets as we find them, and see if we cannot with profit to ourselves limit our production to a few leading articles that may be with safety relied upon by reason of the too great cost of transporting them *great* distances.

In ordinary farming, the Indian corn crop is regarded as one of the most profitable and one not to be omitted in our rotations. I admit to having advocated its culture here in past years. Circumstances, however, have greatly changed in respect to the cost and value of labor and the relative value of other products, which in a measure, come into competition with it. We cannot grow it successfully without heavy manuring and a large outlay of labor. We often see reports of crops of corn, and the various items of cost given in its production going the rounds of our agricultural publications. Some of them show a very good margin on the right side. It is very curious as well as lamentable to see such discrepancy in the items of *cost of production* often amounting to one hundred per cent. There must be a mistake somewhere.

If we resort to our own experience to find out where this mistake is we come to the conclusion that most of the estimates are under the real cost. Many farmers appear to fear bringing *every* item of cost into their account of outlay for producing a crop. This is a very unwise course for us to pursue. To determine whether our business is paying us in all its various crops or products, a most careful estimate of every item of cost is necessary. To illustrate my meaning, I will give the method I pursued for many years with an acre of land I planted with onions. The farm was valued at one hundred dollars an acre. The acre for onions, two hundred dollars, as it was a choice piece. Interest on it, twelve dollars; a per centage for depreciation of buildings and tools; the market value of all manure used each year; the cost of seed; every hour's labor and board, adding a per cent. for rainy weather, when men were not worth as much as on fair weather,—in fact I charged every item at its *full* cost. The result was, I knew exactly what my crop cost me a bushel when it was delivered. Now I think if we bring this rigid test as to cost to bear upon most of our crops we shall find them *tekel*.

Let us look at the *cost* of producing corn at the West, based on what I know to be facts. It is, or was a few years since, expected that

one man with a pair of horses, and a boy to *drop* the corn when not planted with a machine, would put in from thirty-five to forty acres, care for and harvest it, besides lending a hand at grain and hay harvest. I knew a farmer that in 1863 did this on his own place, and the forty acres were kept as clean of weeds as any farm I saw in our own State. The yield was over forty bushels to the acre. Now put this man's corn on to the railroad (which is near him) and bring it to Boston, *over a thousand miles*, at the present cost of transportation, and we have it in competition with ours which has cost us so much more than his as to give him a good profit if sold at the *cost* of our own.

The same appears to be true of potatoes. Maine sends into this State large quantities of them at less cost and of better quality than our own. These two articles are the most relied upon for profit by our farmers, unless we include our hay and cows, which is not advisable to do as they are rapidly becoming specialties in some of our own towns for furnishing milk for butter, cheese and condensing factories, much to the detriment of the productive capacity of the farms if any reliance can be placed on the reports of those regarded as authority in the matter. It is not so much the fact that we have to encounter sharp competition and be discouraged by it, as to see if we cannot so direct our efforts that they shall eventuate in larger profits than if we adhered to our present practice of many baskets for our eggs.

Look over the report of the market for the past week and see if we cannot learn something from it that will instruct us, especially if we find that the present market quotations are very similar to those of the past ten years, so far as the relative value of the same description of products are concerned. With the exception of hay, grain, and meats, during the war and immediately subsequent to it, relative prices have been quite uniform. Since the war, or within two years past, grain and meats have resumed their relative place with other commodities. Hay and straw have not,—more especially the last. Why this is so becomes an interesting question for those who do or can produce them.

It is in this direction I think we are called upon to discriminate, if in any. If these articles are higher relatively than our other products and are likely to be so in the future, ought they not to have a more prominent place in our production? The consumption and use of them in our cities and villages have greatly increased, while their production has diminished. The consequence is the price of them has gone up and our supplies are supplemented from abroad.

Your quotations for country hay the past week was \$1.65 per 100 pounds and straw \$1.00 to \$1.50; New York straw at \$1.80 and \$2.00 per 100 pounds. The New York

straw I suppose is flail threshed, unbroken and put up in nice bales. Do not these prices look as if there might be a profit in producing them? I think so, and that it can be made to appear to the satisfaction of fair minded men.

I propose trying to do this in a subsequent communication.

K. O.

March 30, 1871.

For the New England Farmer.

DEPOPULATION OF RURAL TOWNS IN NEW ENGLAND.

This subject is one of some import, and to be fully understood it must be viewed from different stand-points. Your correspondents have in the main considered it as a retrograde movement, a "backward tendency" in the march of civilization, and the inevitable result, in their opinion, will be a general depreciation in the value of farm lands and all agricultural interests.

They sing in plaintive tones of "neglected homesteads," and notice "instances, where the cellars and foundations over which once stood the homes of prosperous families outnumber the present dwellings of its inhabitants." They tell us unless something is done to stop this tide of migration "that ere long wild animals will return to their former haunts amid the hills and valleys of our dear old New England."

For once we must beg leave to differ in opinion from those much esteemed correspondents. The cause of this disagreement may perhaps be traceable to the fact that we are located in one of those rural towns that are becoming depopulated, and know but little of the outside world. This depopulation of purely agricultural towns we regard as the legitimate result of progress in the art and science of agriculture.

Improved implements and machinery have been brought into use, with which the labor of the farm is performed in less time, and by an entirely different class of laborers than formerly.

For instance we now see the youth of 14 years accomplishing as much work with a mower as a number of strong, robust men would in the same time with scythes. A few hours later in the day, we see the younger brother of that youth seated upon the tedder driving through the field turning the hay. In due time he is followed by a boy still younger with a horse-rake, and we have only to look once again to see the trio amusing themselves with the horse fork while they remove the hay from the cart and deposit the same upon the top loft in the barn. In a word, the haying season, which once required all the available help, now calls for boys only, and it is merely a pastime for them. This may have the appearance of an overdrawn picture, yet it is precisely what our watchful eyes behold in

connection with every department of farm labor. We see it in the preparation of the soil, in sowing the seed, in the after culture, in harvesting farm crops and transporting them to distant markets.

Formerly the farmer that raised two or three acres of onions, must spend days and perhaps weeks of laborious, back-breaking work sowing the seed, now the *stripling* will accomplish the same work in a more satisfactory manner with a seed-sower in a single day, having spent an hour after his mid-day meal perusing the "NEW ENGLAND FARMER" or some other first class periodical.

Once our surplus labor, and draught animals enough to consume all the forage crops we could grow, might have been employed transporting farm products to market and returning implements, fertilizers, seeds, &c.; but the railroads come in and carry our freights for about twenty per cent. of what it formerly cost to do the same work.

Again, fertilizers are introduced that can be used in a more concentrated form,—new and better modes of cultivation are adopted, whereby farm work is very much abridged, and the tendency of every progressive movement is to diminish the amount of labor required to produce a given quantity of farm products.

The increase of population in the country has averaged about 33 per cent. each decade of years, and the demand for agricultural products would naturally increase in about the same ratio. Will it employ a larger number of laborers with all these improved implements and labor saving machines to supply this increased demand? Certainly not. On the other hand the number of farm laborers grows less each year, and the census reveals the fact that this purely agricultural town is becoming depopulated. While the number of laborers has decreased, our lands have become more productive and their market value has increased. These rapid strides of advancement in the art of agriculture very naturally suggests interesting considerations. Will the manufacturing and commercial industries of New England be able to supply this unparalleled demand for implements, machinery and fertilizers?

Will the accumulated wealth of her manufacturers, merchants and bankers create a demand at remunerative prices for this largely increased amount of farm products? If this can be accomplished without attracting labor or capital from agricultural pursuits, crops may be introduced that will more fully develop the productive qualities of the soil and profitably employ every class of laborers; then would the ratio of increase in the population of the rural towns exceed that of the manufacturing villages. But why explore the broad field of impossibilities to find a remedy for this so called *evil* or to prevent migration?

It requires no great stretch of imagination

to see that with the aid of all these labor-saving machines and increased facilities for performing farm work, the same proportion of the population that were formerly engaged in agricultural pursuits would in a brief space of time glut every market in the known world with farm products. The demand for these products not being equal to the supply, the price must fall below the cost of producing them.

We must then accept the present condition of affairs, and those who choose to discontinue the pursuit of agriculture, and seek more advantageous modes of employing their labor and capital, must be allowed to do so, even should some portions of the country become densely populated while other localities have but a sparse population. Under these circumstances there is no danger that the earth will become depopulated or fail to produce an abundant supply of food for both man and beast; and so long as the clatter of machinery is heard upon every farm we shall be more fearful of the "bulls and bears" of *State street* and *Wall street* or the *Royal Exchange* than of the wild animals that once inhabited these beautiful valleys.

We may, however, be considered unequal to our task should we neglect to point out a course by which population would be scattered more evenly over the face of the earth; and we will suggest the following as very simple, well defined and sure to produce such wished results. First—close the doors to the agricultural college, and put out the light of science which radiates from that institution,—shining upon the farmer's path-way—teaching him how to make his farm more productive without increasing the cost of cultivation. Again—suspend the publication of all those scientific and agricultural periodicals which give the farmer practical hints and suggestions concerning his business and inspire him with confidence in undertakings which would otherwise be abandoned upon the first failure; or throw aside and discontinue the use of improved implements and labor-saving machines. In a word, limit the farmer's knowledge to his personal experience and observation, or the quality of his tools to his own ingenuity and skill, and the work is accomplished—the demand for manufactured articles destroyed, and we shall see people flocking from villages to rural districts, some to dig their bread from cultivated fields, others to subsist upon the spontaneous productions of the earth or the precarious products of the chase.

May it be our lot to protest against any of these movements which are calculated to block the wheels of progress, or roll back upon the rural towns a tide of migration that would jeopardize the interests of agriculture or happiness of the human family.

L. P. WARNER.

Sunderland, Mass., March, 1871.

For the New England Farmer.

USES AND VALUE OF MUCK.

An Essay read before the Concord, Mass., Farmers' Club by GEORGE F. WHEELER.

The term *muck* is usually applied to the vegetable deposits of swamps and rivers. In origin, muck is simply the product of growths, on the same spot, of wild plants, grasses and leaves that have withered and decayed, to be followed by other growths, until a bed of rotted vegetation is formed. The material in its natural state is filled with water, and some of it is impregnated with acids which are hurtful to vegetation. The best muck is usually found in comparatively dry localities, between hills, where the water that caused the deposit has been removed.

The muck we should seek to obtain for composting is in a state so nearly decayed that a little more heat and moisture will make it available for plant food. Such a product will have a rich, black color, and when dry it will pulverize easily between the fingers.

In preparing it for use it must be dug from its natural bed to deprive it of its moisture; that the frosts of winter may act on the particles, helping to decompose it more thoroughly, and removing any acids that are injurious to vegetation. It will shrink in bulk nearly one-half by this method, so we save quite an amount of labor in handling.

Many fail to see the advantages of using muck, aside from an absorbent to the stable or compost heap, by not understanding the advantages it has in its application to the soil. We are so impatient for results, that if they are not satisfactory at once, we are very ready to condemn the means used. By the application of muck to the soil, we tend to loosen it, thereby allowing the air and heat to move more readily through the soil. It is surprising to see how mellow a stiff, heavy soil may be made by a thick coating of muck. The soil most benefited by muck would be a light, dry, sandy one; such a soil is more subject to the extremes of heat and cold. The darker we can make the color of this soil, the more it will absorb heat by day, and at night the dark particles drink in moisture from the air, that the sand would not. On all soils it will be of an ultimate benefit (excepting those rich bottom lands already rich in humus) in enriching and acting mechanically, to loosen and lighten them so that vegetation is encouraged as it can be in no other way, excepting partially by ploughing in green crops.

• If we will not be too impatient to see the results of the application of muck, we shall be satisfied in a term of years of the improved condition of the soil by the crops we produce. I am fully satisfied with the applications I have made of muck to a large asparagus bed; that increased its productiveness *one-third*, besides making the soil looser and more easily worked. Muck is of great importance as a composting

material. To be a good absorbent it must be dry, and in order to keep it so it must be housed. A person to use it to the best advantage, should provide himself with some suitable place to store it at a dry time. As a substance to absorb the urine of our stalls, it is of much value. Muck is very slow in decomposing. If applied to the soil alone, its value is at once enhanced, if, before applying it to the soil, we mix it with some manure to heat it, and render the particles soluble for plant food. An English writer proved by experiment that one part of horse dung was capable to bring three or four parts of muck to a suitable state of fermentation. I think most people that use it here in composting, add one-half muck to as much manure. Just how much we can profitably use, each must decide for himself from his own observation and the opinions of others. I think I found it profitable the last year to use two-thirds muck to one-third manure in composting. Besides this, I use large quantities on the land in its natural state.

Farmers should seek to know the resources of their own farms before purchasing any of the commercial fertilizers offered for sale. The best kinds only admit in their analysis of three to five per cent. of ammonia. A table of analysis prepared by Prof. Johnson, of the Connecticut State Agricultural Society, from thirty-three samples of muck, yielded from 1.37 to 2.14 per cent. ammonia in its natural state; when dry from 3.10 to 5.41, averaging about 3.50. It is hard for farmers to accept the analysis given by Dr. Dana, making muck nearly or quite equal to cow manure. I think it would be very hard to produce facts to show it so satisfactory. Enough facts can be produced to show, to any doubting mind, that it will pay to use it largely in our compost heaps. The results have certainly exceeded my expectations.

ORCHARD GRASS.

From an essay by L. F. Allen, Esq., Black Rock, N. Y., in the *Tribune*, we make the following extract:—

We have grown this grass constantly—not in large quantities, to be sure—for the past 30 years, and know its value for the various purposes we have mentioned; but for *soiling* stock in the summer season we consider its qualities the most eminent. A few of its qualities will be stated:

First: It starts early in the spring, with a broad, oat-like leaf, growing rapidly, and arriving at its highest condition of excellence when in early bloom, which is about the time of the blossoming of the common red clover, and, if made into hay, fit to cut at the same time. Yet, for soiling purposes, it may be cut some days, or even some weeks, earlier. It is better, however, for the full amount of

nutriment it will afford, to wait until the flower is fairly developed. Its qualities are sweet, nutritious, abundant in production, tall as ordinary oats in growth, and a heavy burden to the area on which it is produced. If suffered to stand long enough to mature its seed, the stalk fiber becomes hardy, harsh, and unpalatable to stock; therefore it must be cut before it arrives at its seed-ripening condition, as is the case with most other grasses for *dry* forage purposes. No grass which we have ever grown has yielded so heavy swath as this, nor one from which so much cattle food to the acre can be grown, aside from Lucerne or Trefoil, which our American climates will not consecutively, year after year, produce. No grass, not even red clover, springs up so rapidly after cutting as this. We have known it in showery weather start fully three inches within a week after cutting, and so continue for repeated cuttings throughout the season, retaining its verdure into the latest frosts, and then affording a pasturage sweet and nutritious, inviting to all kinds of farm stock inclined to grazing.

Second: As hay, its quality is good, *when cut in its early flower*, but inferior when gone to seed, attaining then a woody fiber, as before remarked, yet, when cut and steamed, equal in nutritious quality to other *late-cut* grasses. The steaming or cooking process reduces its fibrous stalk to a comparative *pulp*, rendering it palatable to the taste of animals, and congenial to the action of the stomach for nutritious uses. As hay, it cures readily; its long growth renders it easy to rake and handle; it stores compactly in either stack or mow; cuts easily with the hay-knife in the mow when fed dry in winter, and is every way as convenient a *long* fodder as any other. Such are its qualities for hay.

Third: As soiling stock through the summer months is now coming rapidly into practice, we can do no better service to the farmer—more particularly to the dairymen—than to recommend the Orchard grass for that purpose; and for the following reasons: It is early. It grows continuously throughout the summer and fall seasons. It is *permanent* in its occupation of the soil, having a strong fibrous root; maintains its hold in clumps, or tussocks, against any and all other grasses, even the blue grass—which crowds out almost every other—making no inroads on its possession when once fairly rooted. We have a field of it, on a strong clayey loam, which has stood for more than 30 years. It has been cut for soiling; it has been cut for hay; it has been pastured; it was first sown with red clover and timothy, which it long ago run out, and, although the white clover and blue grass venture their presence to a limited extent among it, the orchard grass retains its supremacy, and, breast-high at maturity, lords it over its diminutive trespassers in a bounteous crop, while its humbler attendants, good in

their place, modestly fill up a great, nutritious undergrowth at the bottom.

It has been objected to the orchard grass that it grows too much in *stools*, or *tussocks*. If it has a fault, that is one of them; but full seeding will measurably remedy that. It does not stool or spread so universally as the blue grass, or perhaps some others, but it forms a strong, compact root, and that root it holds firmly, enduringly, and, if given a moderate amount of fertilizing matter, its roots fill the surface, and there they stay, yielding to nothing but the utmost abuse by treading out in spring by heavy cattle—which should never be allowed on any grasses—or the plough itself.

The seed of the orchard grass, from its absence of general cultivation, is not found in abundant quantity at the seed-stores of our towns and cities, and the price may be dear compared with timothy, and the clovers; yet not so dear as to prevent the farmer from obtaining it in sufficient quantity for trial, and from a small area of ground, to supply his own wants in seed hereafter. It yields bountifully, and when ripe, which is easily known by its assuming a yellowish color, it may be cut and bound in sheaves like oats, or mowed, cured, and threshed out, like timothy. The entire process of its cultivation is as simple as any of our ordinary farm grasses.

ARNAUTKA WHEAT.

A correspondent of the *Maine Farmer*, who has grown this variety two years from seed obtained from the Agricultural Department at Washington says:—Last season, 1870, I raised about a dozen bushels. It is quite a pretty growing variety, short, stiff, bearded and the heads are short, plump and well filled. The heads are of a square shape, and often of a bluish black color, especially before ripening. It was not injured by the midge, and in productiveness compared well with the leading varieties cultivated. The straw is tough, and the heads tougher. There is no danger of any wasting and falling out in the field, for it is no easy matter to thresh it, even with a machine. Quite a per centage of the yield last year was lost or left in the straw. The threshers said it was impossible to get it all out of the straw. A few weeks since this wheat was sent to the mill to be manufactured into flour, but it was only after considerable urging that the miller would consent to grind it. He said that he had refused to grind several "grists" of it, and had sent it away as the kernels were so hard and flinty it was almost impossible to flour it. However, he put it through, and the result was a very fair article of flour, with a large amount of "middlings" and bran. The flour is sweet and eatable, but the per centage of flour was hardly equal that from our best varieties of wheat. So much I can say from experience. I shall not sow it again. Per-

haps others may have had a different experience.

TOPICS FOR FARMERS' CLUBS.

The following list of subjects for the winter meetings of the Waltham Farmers' Club for 1871-2, have been announced, together with time, place, and disputants for each meeting. This gives time for thought and preparation on the part of those appointed to engage in the exercises. The programme may be of interest to the members of farmers' clubs in other localities.

The results of farming in 1871, and what has been learned that will be beneficial in the future.

Has the importation of the foreign breeds of cattle, horses and other stock been a benefit to the community?

Trades and trade unions; their influence on the business of the community. Would a combination of the farming interests be a benefit to their general prosperity?

Woodland and forest trees; their advantages or disadvantages to the farm and community.

What are the causes that have led to the decrease of the farming population of New England, and to the deterioration of its soil?

Farms and farmers; what are the indications of good farming?

Swine and poultry; the best breeds of each, and the best method of keeping and feeding, and the profit or loss.

The roads of Waltham; the best and most economical method of making and repairing them throughout the town.

Fruits and vegetables; the proper time to gather and the best way of preserving them.

Milch cows; the feeding and management in regard to health and the production of milk.

The raising, feeding and training of horses for speed, road and farm work.

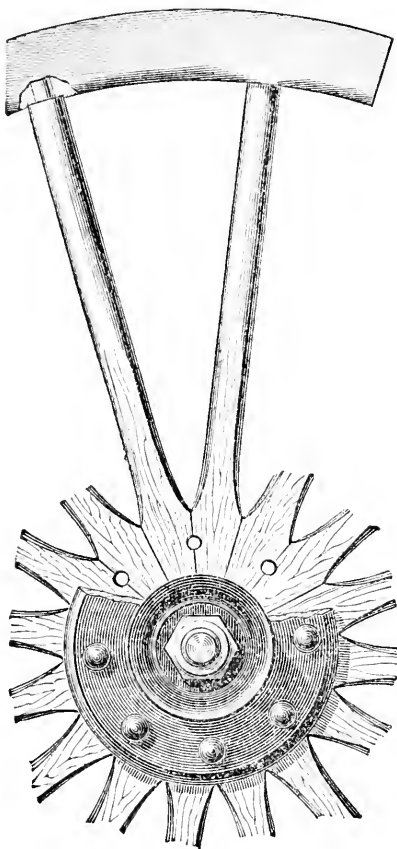
Farming of Waltham; is it profitable? if not, how can it be made so?

MAKING SOAP.—A great deal of grease may be saved for soap that would not be nice mixed with soap. Put all your grease in a large kettle, (scraps, marrow-bones and anything else from which grease may be extracted) cover it with lye, and let it boil an hour or two, then put a quart, more or less, of course salt, which will separate the grease from the rest and rise to the top; let it boil half an hour, then fill it up with cold water, and let it stand till cold. Take all the grease off the top, throwing away the bottom, which will contain a great deal of sediment. Then put the grease and lye together, and boil, and you will not fail of having good soap, if the lye is good. A trough is much better than a barrel to keep it in, as the hoops are liable to burst.—*Farmer's Wife, in Maine Farmer.*

—The *Gardener's Monthly* says liquid manure made from rotten wood is a capital fertilizer for violets. Once, he thought, as shady places were the natural places where violets grew, that rotten wood would be a good thing in the soil, and so made the experiment.

ARCHIBALD'S IMPROVED SPOKE WHEEL.

The accompanying engraving illustrates a new *Spoke Wheel*, invented and manufactured by Mr. E. A. ARCHIBALD, of Methuen, Mass., and shows pretty fully the principles of its construction. The spokes have their ends,



which enter between the flanges of the hub, made in the form of truncated wedges, and each of them has formed in it a semicircular cutting, which, when the spokes are placed together in the wheel, as shown, form a bolt hole to receive one of the bolts which pass through the flanged plates of the hub. They thus act as an arch of solid wood, so firmly clamped together as to give great strength at the part of the wheel receiving the greatest lateral strain; and the wood being left uncut at the perimeter of the flanges, has a larger sectional area than is found in many other forms of spoked wheels.

n team wheels the axle boxes should be

true with, and so firmly secured to the hub as to obviate all danger of displacement. The spokes should be so firm in the hub that neither wear, weight, nor drought will cause them to work toward the centre and loosen the tire, and so *held by the hub* that the absorption of moisture shall not dish or cramp them. The spokes should be made to fit the felloes in the most perfect manner, without checking or splitting. If properly made and of well seasoned stock, the wheel becomes one homogeneous whole, all strains being distributed to all parts of the wheel, rather than concentrated upon single parts, as is the case when everything is not held firmly in its place.

This wheel has been used in the most trying climates, and under the most trying circumstances, and has shown itself capable of great endurance. For further information in relation to this invention, see advertisement in another column.

EXTRACTS AND REPLIES.

SWELLING UNDER A COW'S TONGUE.

MR. EDITOR:—I am a reader of the *NEW ENGLAND FARMER*, a paper from which I have received much valuable information. And now, I wish to consult you concerning a sick cow, of which I am the owner.

Early in December last, as the cow came to the barn one night, I observed a swelling under her tongue. It was so large at first, that the base of the tongue was pushed up so as to render the breathing of the animal quite difficult. Soon, however, the swelling subsided in part; but it returned to its former size, and has continued ever since to vary in its dimensions from time to time. The animal's appetite has been good until the last week. But she now scorns badly, has lost her appetite and is exceedingly weak.

The cow will, probably, be dead before this reaches you; but I wish you, or some of your contributors, to explain the nature and cause of the disease, and prescribe the treatment proper for such affections.

S. M.

North Charlestown, N. H., 1871.

REMARKS.—The swelling described by our friend "S. M." was, doubtless, an enlargement of the *sub-lingual gland*, a small body situated under the tongue, and which like its associates, the *parotid* and *sub-maxillary* glands, secretes *saliva* for the purpose of aiding in the process of digestion.

Such enlargements of the sub-lingual gland may be caused by inflammation, either acute or chronic; by the presence of worms; or by the development of a malignant disease, like scirrhus or cancer. In the ease under consideration, we judge the enlargement to have been caused by acute inflammation; or else by the presence of worms. If inflammation was the cause, it was probably produced by the obstruction of the duct or pipe of the gland which discharges the saliva into the mouth

which is called the *excretory duct*. This obstruction might have been caused by something taken into the mouth with the food; by a bony or chalky concretion produced by an excess of alkaline or of saline matter in the blood; or, by the presence of worms.

But we have said the swelling might have been caused *wholly by worms*—indeed, we think such was the case. We believe that the sub-lingual gland was a *nest* of small, thread-like worms, called *filaria*; and that other portions of the body, particularly the wind-pipe and bronchial tubes, were infested by the same little creatures. And here we take the liberty to digress so far as to remark that on further investigation and reflection, we are compelled to entertain the opinion that the steer whose case was described in the weekly FARMER of March 18, 1871, was killed by the same little parasites—the *filaria bronchialis*.

The weakness of the cow, whose case we are considering, was produced by the diarrhoea and loss of appetite, and these were produced by inflammation of the mucous coat of the alimentary canal, and if our theory respecting worms be correct, that was produced by the worms.

The treatment proper in such cases must, of course, depend mainly on what we may know concerning the cause of the affection; and also, on the particular features of each individual case. If obstructions exist in the gland or in its excretory duct, they should be removed, whatever they may be. If there be inflammation of the gland and surrounding parts, that should be reduced if possible, by proper applications. *Tincture of iodine* is the best thing for such a purpose. If worms are known to exist, or if there is reason to suspect their existence, a strong solution of *carbolic acid* should be applied freely to the part or parts affected, so far as they can be reached; and a weaker solution of the same article should be administered internally, and repeated at intervals of three or four hours. A proper dose of this medicine would be, as we suppose, an ounce or two of a solution as strong as a man can hold in his mouth, and this should be still further diluted with an equal quantity of water.

If we had a cow affected with *filaria bronchialis* we should not expect to cure her; but we should have more confidence in carbolic acid than in any other article with which we are acquainted, and should use it.

J. H. S.

CORN FOR GREEN FODDER.

I have a piece of ground of two-thirds of an acre that I wish to sow to fodder corn. Please to tell me how much corn I shall want to an acre, what kind is the best, and whether broadcast or in drills. I want it for a green bite in summer, when things are dried in the pasture. A YOUNG FARMER.

Deering, Me., 1871.

REMARKS.—Large quantities of "fodder corn" are raised annually by the milk producers in the country within twenty miles of Boston. About four bushels to the acre is sowed, and it is usually sown in drills. The land is furrowed in rather

wide and shallow drills, and if not liberally manured and ploughed under, some fertilizer is sown in the drill, such as ashes, home-made guano, or any of the special fertilizers that can be relied upon. Old compost manure is an excellent stimulant, and would be quite likely to carry out the crop well.

If the corn is sown broadcast it cannot be cultivated, so that there may be a crop of weeds as well as corn, if the weeds get an early start before the corn occupies all the ground. If in drills, the horse and cultivator may keep the crop clean, with a very little hand labor added.

The fodder of *sweet corn* is much preferred by most farmers. It is more nutritious than the common corn, does not grow so rank and consequently there is less waste in it. It is bad policy to sow it *very thick*. In such case it excludes the air and sun, grows up of a pale, yellow color, and the cattle do not eat it with that eagerness that they do corn which has plenty of room and sunlight.

When in drills the grains should not be strewed along in a straight line, but scattered over a space some eight or ten inches wide. The crop may be harvested much more easily from drills than from broadcast sowing.

PLANTS FROM SEEDS.

Will you or S. O. J. inform us if the *Begonia Rex*, and *Richardia maculata* are propagated from seed; if so, how long before they will come to maturity? The seeds are recommended in the catalogues but we cannot always trust them. Is the *Clianthus* a desirable house plant?

Keene, N. H., April, 1871. ANNIE DURKEE.

REMARKS.—The above named plants are grown from seeds, but I have never attempted their culture. Probably they would not come to maturity for two or three years, at least. Such green-house plants require very careful treatment to vegetate from seed; and Miss Durkee would have much more satisfaction in the plants if she procured them from the florists. The expense would be about the same, and she would be certain of obtaining what she desired. At the Innisfallen Green-houses, Pittsfield, Mass., she can obtain a *Begonia Rex* for from twenty-five to fifty cents; and a *Richardia maculata* for fifty cents. The latter requires to be kept dry in the winter, and is started in the spring like a dahlia.

I have never seen a *Clianthus*. The seeds that I planted last season refused to germinate. The "cuts" of it are very attractive, and it is highly praised. In California it grows in great perfection, and is called the *Glory Pea*.

S. O. J.

URINE AS A FERTILIZER.

There is a urinal here in quantity about one barrel per week; it is contemplated to apply it to a farm about one mile distant, and the question is, How can it be best applied? The farm is adapted to corn, potatoes and grass. Is there any cheap substance known to chemists by the use of which the portion of urine nourishing to crops can be separated and utilized, thus saving the expense of transporting the waste portion? If you would

give me a little light on this subject I shall be very thankful.

EDWARD WILLIAMS.

Newton, N. H., April, 1871.

REMARKS.—There is no process familiar to us whereby the most valuable portions of the urine could be separated economically from its less valuable parts. The cost of any chemical manipulations to separate it, it seems to us would be much larger than the transportation of the whole to the field where it is to be used.

Our suggestion would be to have an ample bed of good, dry muck always on hand at the farm, mingle the urine with it from time to time, and throw it into a compact heap, under cover, or into barrels, until wanted for use. In this way all the value of the urine would be secured, together with the additional value of the muck, which would not be inconsiderable, even if used on clayey loam soils; but on some of the plains in your region it would be of very great benefit.

LOADING A WAGON.

You must permit me to differ somewhat with both Mr. Sanderson, and the article in the *FARMER* of March 11. Mr. Sanderson carries the idea that the nearer he can get his load to his team the easier it can be moved. This is true in the case of a drag, for there he will get a lift on the load. But let him take a wagon body twelve or fourteen feet long, with the wheels at equal distances from each end of the body, say not more than eighteen to twenty-two inches, and load this wagon equally from end to end, say about eighteen to twenty hundred pounds; then a man can lift either wheel, if on level ground. But take this same load and put it on a short body, say about eight feet, as commonly used, and try your strength on the wheels. I doubt whether you can raise one of them, unless you are a very strong man. The same weight is on the wagon body in both cases, but in the first case you have a longer lever purchase. Now if you can lift a wheel easier on a long cart body when at rest, must it not rise a small obstacle easier when in motion? You may raise one objection, that is, whenever you are rising a hill and the cattle are beginning to descend, then there is a sharp nip. This I will admit. I have drawn long timber on wheels when they were a good ways apart, when if the timber had been cut into eight feet stuff, the same team could not have drawn the load. I am in favor of a long body and the wheels at equal distances from the ends, and evenly loaded.

S. DENHAM.

South Hanson, April 5, 1871.

THE RIVER APPLE.

In the March number of the *NEW ENGLAND FARMER*, page 113, the *River apple* is highly praised. Where is it to be obtained? None of our nursery-men around here know anything about it.

Please let me know where I can get a tree of it, or at least some scions, and oblige

Charlestown, N. H., 1871. W. W. GREEN.

REMARKS.—The above note was mislaid or it would have been answered before.

The *River apple* originated in Massachusetts, and though not abundant, is not uncommon here. Mr. Downing's account of it says: Tree of slow growth, but productive. Fruit medium to large, oblong, slightly conic, ribbed. Skin yellow, striped and shaded with dark red, with a slight bloom. Stalk

medium, deeply planted. Calyx small, closed, set in a basin of moderate depth. Flesh coarse, juicy, tender, pleasant, sub acid. August and September.

In our experience, the tree grows as rapidly as do most trees. We have no doubt but Mr. J. W. Manning, of Reading, Mass., will furnish trees of this variety. We will send to your address a few scions.

SEEDING DOWN WITH CORN FODDER.

If the fodder question is in order, we would add a word to Mr. Cheever's argument. We believe in corn fodder. We raise no green or ripened corn. Grass, or a substitute, is the most valuable crop we can raise.

We have sowed corn broadcast upon land hoed the year previous, and grass seed with the corn. The corn was large enough and the crop of hay the next year as good as it would have been if grain instead of corn had been sowed,—so it seemed; at any rate, there was a good catch of grass. We have spread manure upon witch grass sod, where it was smooth, turned it under and before the harrow was put upon the soil dropped corn between the furrows, omitting half the spaces, making the rows as wide as two furrows, and using about three bushels of seed to the acre, then harrowed the ground smoothly, with no other cultivation, and had enough, with a good crop of witch grass, the next year, without cost of seed or hoeing. We have some corn fodder now, April 8, that was dried last fall. We think one-third corn fodder and two-thirds hay as good as all hay and no corn fodder.

Don't ask us how we cure it for winter, for we don't know the best way; at any rate, we are not quite satisfied with any method we have tried. It is very difficult spilling it after it has been cut at the last stage of its growth to make fodder, if kept from falling down.

We raise corn fodder to secure a crop of hay the next year, and that with the least labor possible. We have failed to get a catch of grass among corn, on dry land, in dry seasons; but we think grass is as sure among corn as it is among grain.

West Yard, N. H., 1871.

RELIEVING CHOKED CATTLE.

Some three weeks ago there appeared in the *FARMER* an inquiry for some safer and more certain method of relieving choked animals, than the usual way of trying to crowd the obstruction down into the stomach, or smash it in the throat; and as I have seen no answer to the inquiry, I will venture to give you my remedy.

As soon as the animal is discovered to be choked, hold its mouth firmly open and drop low down upon the roots of the tongue a small handful of fine dry gunpowder, and let the creature loose. This causes the animal to cough violently, when the obstruction will immediately be removed. I have long been familiar with this manner of treatment, and have seldom, if ever, known it to fail of giving immediate relief if administered in season, before the throat is too badly swollen.

Vermont, April 3, 1871.

ALSIKE CLOVER SEED.

I have been reading a book that speaks very highly of alsike clover. I should like to sow a little this spring just to try it, but I don't know where I can get it or the cost per pound.

AMOS BLANCHARD.

South Royalton, Mass., April 3, 1871.

REMARKS.—The agricultural seed dealers in Boston have the seed for sale at seventy-five cents

a pound. A little for trial may be sent by mail at eight cents per pound, for postage.

EXPERIMENTS WITH FERTILIZERS ON TOBACCO.

I tried an experiment last season with seven different fertilizers on tobacco, and the result was that sea fowl guano yielded the largest quantity and the best quality leaf. The land was all manured alike, divided into seven portions and the fertilizers used in the hills, the same quantity in each plot.

R. A. BELDEN.

Northfield, Mass., April 12, 1871.

AGRICULTURAL ITEMS.

—In California, poplars grow from ten to fifteen feet in a single year.

—Essex County, Mass., raised 25,000 barrels of onions valued at \$100,000, last season.

—Rutland County, Vt., possesses 17 cheese factories, averaging 350 cows each.

—Grasshoppers have made their appearance in Maine.

—Mr. S. A. Hamilton, of Garland, Me., has a pair of three-year old Hereford and Durham steers, well matched, and weighing 3800 pounds.

—Wisconsin has 100 cheese factories within its limits, the most of which are situated in the Green Lake country, near Ripon.

—The Michigan Agricultural College has 146 students, of whom eighty are freshmen. Of the new students, seventy-five per cent. are farmers' sons.

—R. W. Haines, M. D., recommends, in the *Rural New Yorker*, for calves and pigs scouring, a teaspoonful of calcined magnesia in sweet milk thickened with corn meal. For a calf heap the spoon, for a young pig less.

—Several extensive hog growers of Henry Co., Ill., say that feeding steamed food is a perfect preventive of the hog cholera, and that no one there this season, who fed steamed feed, has lost a hog by the cholera.

—The Iowa Agricultural College entered on its third year March 8. The *Homestead* says the Freshman class numbers about 75, the Sophomore 40 and the Junior 32, a total of 147, of whom 30 are ladies.

—The marsh of 150 acres in Lenox, Mass., which Albert Belden is draining, was once a lake, and, doubtless, a favorite haunt of the Indians, as Mr. Belden has already discovered three of their canoes—one two feet below the surface of the bed of the main channel, and in a perfect state of preservation.

—E. Wilson writes the *Rural New Yorker* that for twenty years he has removed films from cattle and horse's eyes without failure. Apply clean lard, warm or cold, which ever way it can be got into the eye best. Its application will cause no pain, and should be applied until the film is removed.

—The average weekly price of eggs in Chicago for the past five years is stated at twenty-two cents

a dozen, by the *Prairie Farmer*; as greater numbers are received during the time of low prices, the average price for all received is put at seventeen cents.

—The dairy business in Medina County, O., says a correspondent of the *Ohio Farmer*, is playing the mischief in that county, by lessening the number of farms, and consequently diminishing the number of farmers. The big fish are eating up the little ones.

—Everything that is liable to generate gas and foul odors should be removed from the cellar on the approach of warm weather, and the room well ventilated. Strewing lime over the floor and whitewashing the walls, is a good means of disinfecting. A little care at this time may save many doctor bills.

—Mr. Meehan, in the *Weekly Press*, says that botanists have no better reason for saying that Indian corn is indigenous to this country than that it was found here when the country was discovered by the white man. Assuming that America was known to the Chinese long before, he thinks that it is to them that we are indebted for our corn, as it has certainly been known in China for a thousand years.

—*The Farmers' Home Journal* speaks of a field of thirty acres of wheat which suddenly changed from a fine vigorous appearance to a sickly yellow. Some attributed it to the fly, but no signs of its presence could be found. On pulling up a stalk its tap root was found to be full of little worms, about as thick as a sewing needle. An examination of other stalks disclosed the presence of the same worms, and it was concluded, very naturally, that the sudden and unfavorable change in the appearance of the wheat was due to these worms.

—The Oshkosh, Wis., *Times* reports that a hop grower near that city a year or more since, sent eight bales of hops to a commission firm in Philadelphia. A few days since he received a statement showing they had been sold at prices ranging from one to six cents per pound, the total receipts being \$25.05. The charges were \$23.69 for freight and drayage; \$8.00 for commission; \$7.20 storage and insurance, making a total of \$38.89, leaving a balance against grower of \$13.84, to which is to be added \$10.00 paid for the packing.

—A correspondent of the *Germantown Telegraph* says, the natural soil of a large portion of the American gardens could be improved and made to yield heavier crops by an admission of sand. In many sections where clayey soils prevail, gardens thus treated would be rendered more friable and could be worked much earlier in spring. Also that many garden-soils which are naturally light, sandy, or gravelly, frequently do not possess sufficient strength to retain for any length of time the manure applied to them; hence, an application of heavy loam will be found beneficial in more than one point of view.

ASHES, LEACHED AND UNLEACHED.

Inquiries are frequently made, regarding the comparative value of leached and unleached ashes; and in order to answer them, let us consider the nature, or chemical constituents of the two heaps as we find them at the soap-boiler's. In one bin are the dry, fresh wood ashes; in another, the wet, lixiviated mass, as thrown from the leach tubs. If the former are like the ashes produced in our own dwelling, by burning in the open fire-place, oak, pine, hickory, birch and maple woods, a bushel will weigh about fifty pounds, six and three-fourth pounds of which are soluble in warm water. Of the soluble constituents, there are a little more than four and one-half pounds of potash and soda, the remainder being the sulphuric, muriatic and carbonic acids with which the alkalis are combined. Forty-three pounds are insoluble in water, and consist of

Carbonate of lime	32 pounds
Phosphate "	3 "
Carbonate of magnesia	4 "
Silicate of lime	3 "
Oxides of iron and manganese	1 "

It is the work of the soap-boiler to remove from ashes what is soluble in water, which is accomplished in the leach tub; and this is all the change they undergo in this establishment. The ashes go in dry, holding the soluble and insoluble substances; they come out wet, deprived of six and three-fourths pounds of potash and soda. It should be stated, however, that about one pound of quick lime is added to each bushel of ashes in the leach, to render the lye caustic. This adds one pound more of lime to the insoluble residuum, or the leached ashes, making it weigh, if it was free from water, forty-four pounds. In leaching, the ashes do not change much in bulk, but they are largely increased in weight from the contained water.

Now, what is the commercial value of the ashes before and after they pass through the soap maker's hands? In the dry state the

Four and one-half pounds of potash and soda are worth six cents a pound	27
Other soluble constituents	3
Thirty-two pounds carbonate of lime	3
Three pounds phosphate of lime	6
Three pounds silicate	0
Iron and manganese	0
	39

This estimate which is a fair one, gives a value per bushel of thirty-nine cents; that is, the substances found in a bushel of good sound wood ashes are worth in the market that sum at the present time. By leaching the ashes, thirty cents of the commercial value is removed and converted into soap; this leaves nine cents as the value of the constituents of a bushel of leached ashes. The silicate of lime, and the metals, practically have no market value, and are not considered.

What is the agricultural value of the two forms of fertilizers? The ashes holding all

their normal constituents are worth more applied to soils than for other uses when separated, dollars and cents being considered. A bushel judiciously employed, will return in most seasons sixty or seventy cents' worth of products the first year. The potash and soda combined as they are in ashes, in the form of carbonates, sulphates and silicates, are in precisely the right condition to be readily assimilated, and also to aid in rendering assimilable, many important constituents of the soil.

The leached ashes also are worth more to the farmer than nine cents a bushel. Relatively they are worth more for soil employment than the unleached, regard being had to the commercial value of the substance when separated. A good honest bushel of moist, leached ashes, will give returns the first year of the value of fifteen or twenty cents; and owing to the peculiar decomposing influence upon the insoluble constituents of the soil, of the silicates, &c., remaining in the mass, their influence extends outside of themselves and continues for a long time. A pound of phosphate of lime found in ashes is worth more than a pound of bone dust, as it is in a condition to be readily taken up by plants. The carbonate of lime is worth more than chalk of the same agent in other forms, inasmuch as it has once passed through plant structures.

The estimates here presented are only rough ones, but they are sufficiently exact to serve as a guide in learning the value of leached and unleached wood ashes. We have experimented considerably with ashes in both forms, upon soils of various kinds, and what we have here stated is the result of our own practical experience.—*Boston Journal of Chemistry*.

SPRING CARE OF COWS.

Dairymen during the past few years have very generally adopted the plan of having cows come in early in the spring, and there is wisdom in so doing, for a greater product of milk is obtained and the health of the cow better preserved. Farmers have learned that by this means, milk fever may be avoided, and that garget, caked udder, &c., which very materially detract from the prospective profits on the dairy, may more generally be averted. They understand that when a cow comes in during the cool weather of spring, while kept upon dry feed, there is but little danger from diseases, and that when this event takes place after the animal has been turned to grass, and the weather has become hot, the case becomes hazardous.

Cows that come in at this season of the year, need special care, however, or they will not yield through the season the expected profit. Food amounting in nutritive qualities to an equivalent of the milk secreted, must be given, or there will be a draft upon the system, reducing flesh and strength, and so checking the general vigor and animation of the

constitution that full recovery will not be made during the entire season.

Corn meal and corn in the ear is fed a great deal by dairymen in the spring, and it is one of the best grain feeds that can be given to make flesh and fat, but one of the poorest as a direct milk producer. Of course, a cow in good condition will secrete more milk than a poor one, and so far as this goes, corn is a good feed. Wheat bran, mill stuff or middlings, cotton seed cake meal and oat meal are all good milk producers, but a cow fed upon these will not increase in flesh as rapidly as if fed upon corn. Wheat bran, which is one of the very best feeds for milk producing, will not fatten a steer. Oat or corn meal mixed, or corn meal with bran and middlings fed together are profitable, one to keep up the strength of the system, and the other to produce milk.

Farmers who have roots to feed at this time, are wise and fortunate; roots are good regulators, and put the animal in the right condition, while upon hay, to change to pasture feed. We regret that farmers do not more generally appreciate the value of roots for stock feed, and give their cultivation more attention.—*Ohio Farmer*.

BEES IN APRIL.

Owing to the very small harvest of honey last season in our State, it is but reasonable to expect that a great number of stocks must die of starvation this spring, unless properly cared for in due season. The fact that a certain colony has wintered safely for several winters is no guarantee that it will live through this one, for old stocks are full as likely to be found wanting this spring as any, so we shall be obliged to examine all and feed such as are needy, if we would save them. We can ascertain pretty certainly which need help by carefully turning the hive bottom up, some pleasant morning, and let the sun shine in between the combs. We can easily see any combs containing sealed honey, and can judge whether there is enough to last until flowers. Inexperienced or nervous persons would do well to blow a few whiffs of tobacco smoke into the hive before inverting it if they would avoid stings.

I would not recommend feeding honey or any other liquid food at this season, unless the object is to promote extensive breeding. It is quite certain to excite a disposition for robbing, and this is not all, it must be followed up regularly or the increasing brood making a larger consumption of food they are full as likely to starve as when let alone.

My favorite feed is a hard candy, which I make of a cheap article of sugar (muscavado) which can be bought for about ten cents per pound. I dissolve this in hot water, and boil until a little dropped into cold water will go to the bottom and be hard enough to break readily.

I then turn it into tin pans about one-fourth of an inch deep over the bottom, and set them into cold water that they may cool quickly, and avoid graining like sugar again. When cool I break it into pieces of a convenient size to feed at once, and put it away to use as wanted. To feed with this, turn common hives bottom up and drop it in between the combs on to the bees. The bottom board may be secured with a stone upon it that it may not be blown off, and the hive remain thus inverted as long as it needs feeding. In movable comb hives it may be laid on the frames above the bees. This feed does not stimulate breeding, is easily given them, and is not expensive.

Rye or wheat meal should be given to bees on all pleasant days. Put it in shallow dishes near the hives in some place out of the wind, but where the sun can shine on it, and they will eagerly appropriate it. A few pounds given to each hive is worth many times its cost.—*G. W. P. Gerrard, in Maine Farmer*.

For the New England Farmer.

HAY AND STRAW.—No. 2.

Shall more prominence be given to the production of these articles?

The increased demand for hay and straw with us, and the decreased production, together with the expense of bringing them from long distances to our markets, have carried the price up to a high figure compared with the prices obtained for other farm products.

The reason for the increased demand is owing to the number of horses kept in our cities and villages, and to the various uses to which straw is adapted in manufactures, &c., that in the past were comparatively unknown. Many owners of horses will not allow them to be bedded with any other than the nicest flail-threshed rye straw, free of dust. It is also changed as soon as soiled. In this manner large quantities are used up. Our street cars and omnibuses work up a large amount during the winter season. The demand is legitimate and at better compensating prices than other farm products command.

The first question that every farmer will propound to himself when he considers the propriety of giving more attention to these crops is, how can it be done, and the productive capacity of the farm be maintained. I am aware of the *seeming* difficulty there is in the way, and that to many it appears insurmountable. Let us examine the matter and see if there is any serious obstacle after all.

We will make the case an extreme one, so far as keeping up the fertility of the farm is involved. Carry no more stock through the winter than is required to do the *necessary* work of the farm—perhaps retaining a cow to furnish milk for family use. This will liberate capital that can be appropriated to

other purposes—possibly in many cases to paying debts and stopping interest money, a great source of annoyance to many. The labor in the house will be greatly diminished and consequent decrease of expenses there—if not a decreased expense, surely increased comfort to the overworked family; relief from anxiety ever attendant upon the care of stock, especially of late years, when so many diseases prevail that call for the utmost vigilance of our law-power to arrest them, and in many instances in Europe baffling even that. Stable and all *animal* manures are considered to be of universal value. Every description of soil is benefited and made more productive by their application. As we propose to curtail the source of this supply we must look for as near a substitute for it as we can find.

So far as my limited experience goes, it is confirmatory of Dana's theory, as given in his Muck Manual, that three cords of good muck composted with a cask of lime slacked with the brine required to dissolve one bushel of salt, comes as near giving us the constituents and value of good stable manure as can be obtained from any other combinations of equal expense now known, and at less cost than stable manure, providing the muck is not too remote from where it is required to be used. As muck abounds in almost every locality, we have in it the basis for keeping up the fertility of the farm.

An experiment I tried with muck composted with oyster shell lime and ashes was highly satisfactory. It was spread on a meadow in alternate strips of two rods in width with fine stable manure of good quality. The first season after the application there was no perceptible difference between them, but succeeding seasons indicated a decided gain from the muck over the manure. I incline to the opinion that ordinary turf or sward, composted according to Dana's rule for composting muck, will be found a profitable top dressing for grass lands. I should fear to use muck without lime or composting it with stable manures. I have known so many instances of sorrel displacing grass that it is not prudent to use muck without some agent to counteract its acidity. An acquaintance having occasion to ditch through a muck deposit spread the muck taken out over several acres of meadow adjoining. The first season or two he had an immense crop of hay. After that sorrel took possession, and notwithstanding manure was applied lavishly it failed to drive out the sorrel or bring back the expelled herdsgrass. I think that in this case the muck acted at first as a mulch and subsequently its acidity was too much for the grass crop and a perfect jubilee for the sorrel.

Another method of keeping up the fertility of meadows is found in turning over the sod and reseeded. Many soils will require this to be done as often as once in four to six years, by reason of their becoming *sward-*

bound and consequently falling off in production. Plough and reseed, and we secure a large amount of feed for grass. Very few are aware of the large amount of vegetable matter made available for crops from this source.

Ploughing in green crops, such as rye, buckwheat, and clover is another practicable and profitable method of not only keeping up the productive capacity of soils, but of increasing their fertility.

It is needless to enumerate all the various methods that can be made available as substitutes for barn-yard and other manures. Every farmer will be governed in his practice by using that which to him seems most expedient under his circumstances.

From the experience of those who have given it a trial, we conclude that by cutting grass in blossom, or before, and suffering the aftermath to remain, not only, a falling off in production in subsequent years will be prevented, but an increased production secured. From the little I have seen of this practice I think the reported results are true. The ripening of the seed exhausts both the soil and the plant, whereas if the grass is cut green, the vigor of the roots is far less impaired, and the aftermath will soon much them from the sun's rays and afford a large amount of nourishment for subsequent crops.

If hay is to be sold off from the farm, pasture lands unsuitable for producing it must be stocked up every summer and the animals disposed of during the autumn. Many will consider this as very troublesome. It undoubtedly will be so for a short time, but will soon cease to be the case. Create a demand for any commodity at *stated times*, and you usually find it at hand at the required time. There are localities in New England where farmers have long practiced this method of purchasing stock in the spring. Some of them employ an agent to go West and buy for them. Sheep are picked up there at shearing time and brought here at a cost of from two dollars to two and a half, that in the fall have been sold for from five and a half to seven dollars a head, according to size and condition. None but good *sized* healthy cattle and sheep should be purchased, as the expense of transportation is in favor of the large animal, and the risk not as great of their being injured on the ears. You can lay on two pounds of flesh on some animals with less trouble than you can one pound on some others.

I think it is a well established fact that farmers can make beef with profit only by pasturage. As soon as he commences feeding with grain he begins to lose money. No doubt but some *think* that their pastures will not make beef and mutton; but do they *know* that they will not? Their pastures make milk, keep the oxen, horses, and young cattle, in good thriving condition, and also the sheep; then why will they not make beef and mutton, if the ani-

mals are not turned into too *early* or the pastures stocked too *hard*? There is a class of farmers that year after year carry their stock through both summer and winter on only sufficient food to keep them from starving. With such it is of no use to reason. They are joined to their idols, and we will let them alone.

I have refrained from recommending any of the so called special fertilizers, not because I have no faith in them, but because of their not being universally good in all localities. They have for some time past, and even now are engaging more attention probably than all other manures on the part of thinking, practical agriculturists. They are so persistently thrust into notice by those who deal in them that farmers are almost compelled to give them this attention. If all *soils* and *climates* were essentially alike in all respects, many of them would be of universal value. This is not so, and therefore to this cause we are to ascribe their failure in some localities, while at the same time they are decidedly successful in others. So far then as these commodities are concerned, the part of wisdom is to be governed by careful experiments made *on our own lands* and under careful supervision.

To illustrate the importance of being thus careful in this particular, I will state that my father's farm and mine were three-fourths of a mile apart. On his land, ashes were very valuable, while on mine I could never discover the least benefit from their application to *any* crop. The Lodi Poudrette was a good investment for me, while for him it was comparatively worthless.

These suggestions I do not wish to be looked upon as authoritative, but as hints deserving careful thought, even if not accepted in practice. Should time permit, I may make some suggestions on grass for pasturage and hay, and also on straw and modes of marketing.

April 17, 1871.

K. O.

For the New England Farmer.

THE VALUE OF DRAINAGE.

To the Editor of the New England Farmer.

SIR:—It gives me great pleasure to note the zeal with which you commenced the practice of thorough draining, orally and editorially; and as that process lies at the very root of the successful cultivation of the soil, I trust that you may continue its discussion, and that your efforts will have ample reward in the general adoption of your excellent advice.

For the last twenty-five years I have—as you know—had very frequent opportunity of being present at farmer's meetings, and it has really surprised me to hear, time after time, year after year, and decade after decade, men of strong good sense, discuss the merits of deep and shallow ploughing, top-dressing or ploughing in manure, &c., without having an associate favorable word to say concerning

what would settle all those questions on a safe and general principle, viz: Thorough Drainage of the soil.

Even if it should startle a majority of your readers half out of their cow-hides, I make, and will uphold, the assertion that there is no description of arable land, however situated, or whatever constituents it may have, that cannot be *profitably* improved by draining. An experience of many years, which included everything from the most tenacious clay to the loosest sand,—the latter, however, merely experimentally,—has fortified my proposition; and it fairly amazes me to be told, as I often have been, by intelligent men on every other subject, that to drain certain dry patches on their farms would be to lay them specially open to the disadvantages of drought which would not assail them in their sodden, undrained condition. Why, sir, agricultural experience has proved, any time during the past thirty-five years, where draining has been conducted in a proper way, that the very opposite results are consequent. But the retention of moisture is not the only benefit on such soils when drained, for drainage permits all manures artificially and naturally applied, to remain in the soil for the fructifying of crops planted upon it, instead of being washed off, or out, of it; and if these fertilizing substances should sink down, drainage renders the soil so porous that the feelers of grains and roots will go deep into it, to almost incredible distances, in search of food and moisture. I once was present at a test of how deep the roots of wheat would penetrate, and they were traced, in directions almost perpendicular, all the way from three feet to five feet four inches. This was proved on the farm of the celebrated Mr. Mechi, of London, and on land that was drained five feet in depth, and, I think, fifty feet between the trenches. Tap-rooted plants will penetrate the soil much farther on the search for food and moisture.

But I do not wish to take up too much of your space just now; however, if you will allow me I will endeavor in due season to furnish you with some practical reminiscences of Scientific Drainage, and its effects, which, I hope, will in some degree illustrate the value of the efforts you have been so laudably making in favor of the primary agricultural improvement, draining. A FIRESIDE FARMER.

HOW TO HAVE EARLY TOMATOES.

D. A. Compton of Hawley, Penn., writes to the American Institute Farmers' Club as follows:

Do not forget to tell your agricultural friends that tomatoes on heavy soil may be obtained from four or five weeks earlier than usual by setting the plants on the tops of sharp hills. The hills should be about fifteen inches high and three feet diameter base.

Water the plants only when first set, and dust the plant and whole hill frequently with plaster. The tomato, coming from a hot and dry country, will endure a drouth that would prove fatal to less hardy plants. What it needs most is heat, and this is secured by planting on steep hills on which the sun's rays strike less obliquely than on flat surfaces.

Land should not be over-rich for the tomato, very fertile soils producing too great a growth of vine. The vines should be pinched in, and the blossoms removed after the first settings have attained the size of marbles; but in any case the vines should be permitted to fall directly on the ground, that the fruit may have the full benefit of the heat of the sun and the warmth refracted from the earth. By saving the first well-formed ripe tomato for seed for several successive years, a variety may be obtained that for earliness will be far superior to the original stock.

HIVING BEES.

In a former communication, I alluded to my mode of hiving bees. I will now show how it is done. In the first place, I have a bench three and a-half feet long and sixteen inches wide, two and a-half feet high; also a box a little larger one way than my hive, and five inches high. I nail a strip of lath across the inside, near one side, and even with the top, edgewise, for the hive to rest upon. My hives contain about two thousand cubic inches. My hive is high enough to contain the honey caps in the chamber. I sometimes put some pieces of comb in the top of the under part; this entices them to stay and commence work; but the passages to the honey caps must be covered up by turning the caps over. A part of my hives have frames, and in these I put comb. So, having all ready, I put the hives in the shade, and wait for the bees to issue.

As soon as they commence coming out I take a few sprigs of lemon balm (bee balm—the small flowered, not the balm with long, red flowers,) and rub the hive inside, and as soon as they alight I set my bench in the shade, as near them as convenient, and put my box on one end and the hive on the other. Then I take the box on one arm and hold it under the bees, and with the other hand shake them into it, then set them on the bench and place the hive over them, a little corner-wise, to give them air, and they will generally go up readily.

But if some linger, take a stick as big as a pipe-stem and stir them up carefully, and they will soon go up, and then can be set on the bottom board. But the hive must not be set down tight; it must be set on blocks half an inch thick, and, if it is hot weather, one inch high. Sometimes, in hot weather, they will come out and alight, or go to the woods. "Well," says one, "they didn't like the hive; or they had a place picked out and would go

to it." Not so fast; I had one large swarm come out that way, and I put them back in the same hive and got a pail of cold water from the well and, with a broom brush, I sprinkled the ground about the hive and threw some up in the air and it came down like rain, and so I saved my bees; and so I do with all my swarms in hot weather.

"But," says one, "I can't spend my time in that way. Stop! let me count the cost: A good sized swarm in June is worth \$5; in July \$2 to \$3, and who can afford to lose that amount?"

But I have another way of hiving, some easier than the first named. I have a pole ten feet long, on this I tie some branches from a tree, two feet long, and put it in the shade, and when they begin to come out I take some balm and pound it, and put it on the branches, and hold it up among them, and most of the time they will come to it; but this requires practice. By this mode of hiving I save all my swarms.

Now I wish to say, if any one has a better way, let him show it and I will readily abandon mine.—*A. Wilson, in Rural New Yorker.*

WHAT AN ENGLISHMAN SAYS.

Mr. W. Robson, of London, England, an associate editor of *The Field*, is traveling in the United States, and recently in a letter to *Hearth and Home* expresses himself delighted with the abundance and size of our fruit. He complains of the lack of gardens, and says that he has seen houses in nearly all parts of the country that he has visited, "as bald and bare, and uninviting, from the absence of any trace of a garden, as the flank of any grim sea rock."

Of the American climate he says:—"O, Americans, never blame the climate, for it is an admirable one. The succulent vegetables of the old country grow here, with very few exceptions, and by their side you gather the ears of the stately and graceful maize—most useful of its wonderfully useful family. Muskmelon, better than those which cost an English country gentleman six dollars each to produce in hot-beds and in glass houses, grow side by side with your delicious sweet potato which I used to grow as a curiosity in a hot house.

"Our old popular Williams' pear (you call it the Bartlett), larger, sweeter, and more golden than with us, falls by the side of egg plants, with fruit so large as to be a constant cause of surprise to me who had often grown the fruit to the size of a turkey egg in hot houses in England. Rosy cheeked English apples are seen above the quaint, large flower of the okra, which to us is an impossible exotic. Blessed be every variety of climate, and with its peoples not hedged out from each other's improvements by strange tongues, I look forward to the time when this vast

country shall be more famous for rural beauty than for the wealth of her many cities."

RAISING SEEDLING EVERGREEN AND FOREST TREES.

Many farmers complain—and very justly too, we think, in some cases—that the profits on their productions are too small. How this can be obviated would be somewhat difficult to tell; but how to save some of the money which they do get, can be made clear.

We are acquainted in several agricultural towns, where from one to two thousand dollars have been paid out in each of them, in a single year, for young trees of various kinds. Every one of those trees might have been raised by the farmers of those towns, at a cost not much exceeding the freight on them, from the places where they were grown. A considerable portion of the trees referred to as purchased in these towns were evergreens, and including some forest trees. Almost any amount of these can be raised by any farmer who has a wood lot, and raised at a cost which any thrifty farmer could afford to incur.

Go into the lot and select a spot where the forest trees are of hard wood, pretty large and tall, and where the branches overhead meet thickly enough to screen the spot from the direct rays of the sun. Rake away the dry leaves, and stir the surface a little with an iron-tooth rake. Scatter seeds of the maple, elm, birch, arbor vitae, pine, spruce, or any other small seeds, and with a slight touch of the back part of the head of the rake, draw a little of the soil over them, not exceeding one-eighth of an inch. This should be pressed down a little, so as to bring the seeds into contact with it.

If seeds of the walnut, peach or chestnut, have been properly preserved through the winter,—that is, kept in moist soil and away from frost,—they may be planted in a portion of the bed and covered about one inch deep. If, however, squirrels are in the neighborhood, they may find and eat them, if not watched pretty closely. The small seeds will not be molested by them. If the seeds sowed are good, they will nearly all come up and grow thriftily. In such a place, they are in their natural habitat; they find a rich soil, one that is easily permeated by their roots, have plenty of light, moisture and air, but are screened by the high, overhanging branches from the di-

rect rays of the sun. Weeds will not be very likely to appear among the young plants, but if they do, they must be carefully taken away. Managed in this way, it is surprising what a number of plants may be produced on a square rod of ground. It is not necessary to sow the seeds of each variety by themselves, but to scatter them indiscriminately over the patch.

Attempts are every year made to raise evergreens and hard wood forest trees in the *open* ground, but usually with very poor success. In the way described above, they may be produced in great abundance, and together with the raising of fruit trees at home, would enable the farmer to retain in his pocket or devote to some other purpose, the *thousands* of dollars which are annually paid out for trees which he can cheaply produce for himself.

NEW PUBLICATIONS.

WHAT I KNOW OF FARMING: A series of brief and plain Expositions of Practical Agriculture as an Art based upon Science: By Horace Greeley. "I Know

That where the spade is deepest driven,

The best fruits grow."—*John G. Whittier.*

New York: Published by the Tribune Association. Boston: A. Williams & Co. 1871. 335 pages, price \$1.50.

We may presume that everybody knows that Mr. Greeley published a series of fifty-two essays on "What I know of Farming," in the *New York Tribune* during the year 1870. These essays are now offered in a neat book form, with an introduction, a very full alphabetical index, and the following characteristic dedication:—

To the Man of our Age, who shall make the first Plough propelled by Steam, or other mechanical Power, whereby not less than Ten Acres per day shall be thoroughly pulverized to a depth of Two Feet, at a cost of not more than two dollars per acre, this work is admirably Dedicated by The Author.

The preface to the volume was written Feb. 3, 1871, the day on which the author completed his sixtieth year, and he closes the book with the avowal of his "joyful trust that these essays, slight and imperfect as they are, will incite thousands of young farmers to feel a loftier pride in their calling and take a livelier interest in its improvement, and that many will be induced by them to read abler and better works on agriculture and the sciences which minister to its efficiency and impel its progress toward a perfection, which few as yet have even faintly foreseen." Notwithstanding all the jokes which have been cracked in agricultural papers at the expense of the author of "What I know of Farming," we have no hesitation in advising our agricultural friends, particularly the younger portion of them, for whom it was more especially written, to read the book carefully. Though they may not endorse all the views of the

writer, they will enjoy his pleasant style of communicating his own thoughts and his happy manner of stirring those of his readers.

The autographic address—"Editor *New Eng. Farmer*, Boston, Mass., from Horace Greeley, N. York, Mar. 13, '71,"—on one of the fly-leaves of our copy shows that Mr. Greeley can write a pretty good hand when he tries, and is the more highly prized in this office because one of our present employees likes to boast of having taken a "stand" vacated in 1832, in a printing office in New York, by "little Greeley,"—as Horace was sometimes called to distinguish him from a larger man of the same name, then connected with the establishment.

AN ESSAY on the Natural Habits and Modes of Destroying the Curculio, by W. B. Ransom, St. Joseph, Mich.

We are indebted to the Benton Harbor *Palladium* for a copy of this essay which was read before the Berrian County, Mich., Horticultural Association, Feb. 25, 1871. Mr. Ransom claims to be the discoverer of the method of checking curculios by trapping and destroying them by placing small pieces of bark, blocks, bits of boards, lath, chips, stones, pieces of bricks, bunches of matted leaves, corn cobs, or anything with a flattish surface from two to four inches square, around the collar of the trees on the ground after making it level and smooth to the distance of three or four feet from the tree. Of this discovery we published some account last year. Mr. Ransom still regards his discovery as a very valuable one, to be used in connection with other means of destroying the curculio. Last year he used nothing but his "traps." He prefers pieces of old dead black oak bark, from two to four inches square, which are slightly concave, with uneven edges, furnishing holes and vacancies for the insect to enter, and the necessary space between the bark and ground for the movement of the beetle. These traps are to be examined daily, and the curculios attached thereto destroyed.

NORFOLK FARMERS' CLUB.—This Club was organized in 1859, with twenty members. It now numbers over two hundred, extending into all the adjoining towns. It holds weekly meetings every Monday evening from Sept. to May; and monthly meetings from May to September. At these meetings various questions of interest are discussed, and much information is gained. It is the most wide-awake organization in the town at the present time. In February last, the Club was re-organized under the General Statutes, (Chap. 66, Sect. 17,) for the purpose of holding property, and the following officers were elected for the year:—

President,—S. E. Fales.

Vice Presidents,—L. S. Keith, J. K. Bragg.

Recording Secretary,—W. H. Rockwood.

Corresponding Secretary,—David Sharp.

Treasurer and Librarian,—Levi Blake.

The Club hold an annual Exhibition and Cattle Show, (not horse trot) every fall with gratifying

success, and is an occasion that is looked forward to with interest.

For the foregoing statement we are indebted to the Recording Secretary, who will accept our thanks for his kind attentions.

EXTRACTS AND REPLIES.

RAISING CALVES WITHOUT MILK.

Can you or any of your intelligent farmer readers inform me through the columns of your valuable paper, how and on what calves can be raised when milk is scarce? I have some very fine stock calves that I am anxious to raise, but disposing of my milk in another way, leaves me without feed for them. I think I have read in your columns about a gruel that is sometimes fed them. Can you inform me how it is made, and oblige a

YOUNG FARMER?

Middlebury, Vt., April 17, 1871.

REMARKS.—Milk is the food provided by nature for calves; hence selling milk and raising calves at the same time is something like trying to keep your cake and eat it, too. Still other materials may be substituted for milk, and with proper care and labor calves may be made to grow and thrive. Irish and German women know how to raise calves with little or no milk, and so did the old-fashioned Yankee women. But our chemists who can take things all apart and separate them into their respective pieces or ingredients, have failed in their attempts to put them together again and make a milk on which the young of men and beasts will thrive. Liebig made an artificial milk of what he said were the identical ingredients of good milk, but the babies that were fed upon it for a considerable time starved to death.

From our correspondent's statement we suppose that his calves have taken the first milk of their dams and have probably had more or less of it, either new or skimmed, up to this time, and being well started, he wishes for something as a substitute for milk. Mr. Yonatt, an English writer, speaks of hay-tea as being often used. A little good hay is cut into pieces about two inches long, put into an earthen or other vessel, upon which boiling water is poured and allowed to steep, tightly covered, two hours. At first, after the calf is a week old, half milk and half tea is given,—the tea to be increased, and milk diminished, and always given lukewarm. A gruel of two-thirds oat meal and one-third barley meal is made by adding one quart of the mixed meal to twelve quarts of water, boil half an hour, and when cooled till milk-warm, give each calf a quart of the gruel night and morning, gradually increasing the quantity. When the calves are a fortnight old hang a little bundle of the best hay within their reach, which they will soon learn to eat.

Flax seed tea or jelly was used when farmers raised flax. An old farmer told us that ten quarts of the seed would carry a calf to grass. He let them suck two days, then learned them to drink milk, gradually working in the tea, made by putting two-thirds of a gill of the seed into a gallon of

water at night and set it near the fire. In the morning half of this jelly was mixed with two quarts of water for the breakfast and the other half for supper. In case of scouring, feed milk with wheat shorts till well checked.

Mr. J. Bartlett, of Northboro', Mass., wrote to the FARMER that he lets calves suck two days, then feeds new milk six or eight days, then adds a table spoonful of fine feed or middlings, scalded with hot water, mixed with skim milk, and increases the fine feed according to his judgment.

A farmer in Williston, Vt., wrote that he feeds his calves after well started, on whey, clover tea, and about half a pint of dry oats per day, which they eat as well as horses, which prevents scouring.

The above are a few of the suggestions that have been made in the FARMER, and which we hope will be of some use to Young Farmer.

SALT NECESSARY FOR CATTLE.

There are some things which find their way into our agricultural papers which not only do no good but much injury.

When Judge Buel was editor of the *Albany Cultivator*, some individual through the columns of that paper, tried to convince its readers that the use of salt for our domestic animals was entirely needless, and that the taste for it was not natural but acquired. This attempt might perhaps be said to have done some good in one respect, viz.: It set the readers of the paper to thinking, and some of them to trying the experiment of doing without salt, and all who tried it very soon grew "wiser than their teacher;" they very soon knew better. Recently some one else has taken the same view of the case, and published an article on the subject.

I am feeding to fourteen cows, twice a day in their bran, two single handfuls of salt, and find that if the salt is withheld for three days there will be a falling off of at least four quarts of milk each day. In three days more the milk may be increased by the use of it at least four quarts.

REDUCING TOPS OF TREES ON TRANSPLANTING.

Another thing went the rounds of the agricultural papers which did untold mischief, and is the cause even to this time of much loss and disappointment, viz.: the setting out of young trees without reducing the tops. "Why," said the advocates of this theory, "you might as well cut off a calf's head as to cut off the top of a young tree and expect to have it live."

Now the contrary of this theory is true. All trees which are to be transplanted should have the tops reduced very materially, if you would have them live and do well. The maple, especially, should have all the top cut off to within eight feet of the ground, and then if it be well taken up it will be sure to live, and at the end of three years will have more top on than if set out whole. A little digging around the roots and then with a crowbar they may be very easily taken up. It is a great wonder that more of our farmers do not fill their highways with these most beautiful shade trees, both for their own profit and the comfort of the traveller.

T. L. HART.

West Cornwall, Conn., April, 1871.

REMARKS.—Questions of the gravest importance are suggested by the remarks of our correspondent who never writes an article without saying something to think of. In this case his observations involve one of the most difficult problems which editors are called upon to solve,—the disposition of

opinions and views, offered for publication, which do not harmonize with their own. How far are they responsible for the statements of their correspondents? To what extent are the experience, judgment and knowledge of the editor to bound and limit the expression of the experience, judgment and knowledge of other men? In other words, how far are they responsible as censors of other people's writing? How much shall they abridge the "freedom of the press" for the purpose of preventing the injury they apprehend from the promulgation of error? Who will embody answers to these questions into a rule for the guidance of editors?

As the article against the use of salt has called out the foregoing statement of the practical experience of Mr. Hart in feeding it to his stock, we think the readers of the FARMER will see at least one good reason for dissenting from his assertion that such articles do no good. One great object of agricultural papers is to excite thought and reflection. Farmers as well as men of other occupations should be able to give a reason for everything they do,—whether it be feeding salt or trimming shade trees. And if the writings of visionary and mistaken men shall lead us to investigate and discover the truth, the publication of their articles is not unmixed evil.

ALL ABOUT EGGS.

Our hens, thirty in number, laid in January 350 eggs; in February 560; in March 672; in the first sixteen days in April, twenty-eight hens laid 354; making 162 dozen and one eggs in three and one half months. With this note we send you one dozen of our eggs, that you may see the size of them. The dozen weigh 1½ pounds. That you may have all the particulars, I will just mention that we have kept but one rooster. During the time mentioned we have not lost a hen by sickness. Our poultry are grade Leghorn. E. COOPER.

Winchester, Mass., April 17.

REMARKS.—Thanks for a splendid basket of eggs. Not only for size, color and quality, but for number of eggs produced, Mrs. Cooper's hens are entitled to the ribbon. Last year Mr. Farwell, of Harrisville, N. H., said many of his Brahma hen's eggs would average twenty-six ounces to the dozen,—our dozen weigh twenty-eight ounces,—equal to two and one-third ounces each,—while many eggs sold in market by the dozen will not exceed one and three-fourths ounces.

SHADE AND FRUIT TREES.

Nineteen years ago I began to set shade trees; not forgetting to add to the orchard and garden, apple and cherry trees. Of plums there was already an abundance. There has been scarcely a Spring since, but that I have set out some trees, either for fruit or shade.

For shade trees, I have set sugar maples principally. I have found the best time to set out maples in this locality is about the tenth of May. I usually leave on a few short limbs, as I think the limbs are not so likely to be broken off by the winds, after the trees have attained a larger growth, as when the branches all spring from a common centre. I have now around my building and by the roadside

one hundred maple trees, which have well repaid the trouble and work of planting, by the refreshing coolness of their shade, and the addition to the looks of the homestead. Besides in a few years I shall have a nice little sugar orchard, easy of access.

With apple trees I have not been so successful. Still I have persevered, and now have a young and thrifty orchard, many of the trees of which I have raised from seed. This may seem a slow process, but I think it the surest way. I used to buy apple trees, a few of which have done well, but generally they have been a failure, though some of them lived long enough to produce some remarkably bitter sweet apples.

I would say to all who have land enough to do so—plant trees. They beautify an already pleasant home. Their shade is pleasant and their fruit good to taste. In short they are a “thing of beauty,” which “is a joy forever,” and will live and flourish, when he who planted them is mouldering in the grave. W.

Cabot, Vt., April, 1871.

WARTS ON A HEIFER.

I have a heifer that has got what I suppose to be a double wart, some two inches below the ear, each part as large as a common sized shellbark, surrounded by a number of very small ones. Will you or some of the readers of the NEW ENGLAND FARMER please tell me the best way to cure them, and oblige

ELLIS BARNES.

Plymouth, Mass., April 3, 1871.

REMARKS.—Some simple application, such as a wash of strong alum water, sometimes seems to cure warts,—we say *seems*, because warts often disappear without any doctoring. A waxed thread or hard cord is often tied tightly about the base or neck of the wart, and occasionally tightened, will cause it to come off. Sometimes the wart is pared down to the quick and some kind of caustic,—nitrate of silver, yellow orpiment, or some other kind—carefully applied.

THE PEA WEEVIL.

Will you or some one of the readers of the FARMER inform me and others interested, through your paper, why it is that my peas, that have been kept through the winter, come out in the spring with the heart of the pea entirely eaten out by some insect or other? The pea is not destroyed for the purposes of reproduction, as it will sprout and to all appearances thrive as well as any other.

I do not always find them in the condition spoken of on the return of spring, but such is the fact in the majority of cases. It may be owing to the time of gathering or the manner and place of keeping during the winter season.

If you, or any one, can enlighten me as to the cause of the evil and give a remedy, you will confer a great favor and oblige

A SUBSCRIBER.

Randolph, Mass., April 20, 1871.

REMARKS.—A little beetle, which Mr. Harris calls *Bruchus Pisi*, rather more than one-tenth of an inch long, of a rusty black color, with white spots, wounds the skin of the tender peapod soon after it is formed, and lays an egg directly over the young pea. A little maggot hatches from this egg, perforates the pod and enters the pea by so small an opening as to be scarcely visible, which opening closes over the intruder, leaving a mere spot to mark his entrance. There he eats and grows fat, and if not cooked and swallowed by the lover of

green peas, he gets his full growth about the time the peas become dry, but very kindly leaves the germ of the future sprout untouched. The grub is changed to a pupa within the pea in the autumn, and before the spring casts its skin again, becomes a beetle and gnaws a hole through the thin hull in order to fly away and be on hand when peas flower and set their fruit again. These little creatures diminish the weight of peas in which they lodge nearly one-half, and theiravings are fit only for swine.

So much we glean as to the cause of the evil, but it will probably be difficult to find as much by way of remedy. As the time for the operation of the weevil is limited, late sowing has been recommended. Those sown as late as the tenth of June are said to escape the weevil. But late sowed peas seldom do as well as those sown earlier. To destroy the insect in seed peas a little spirits of turpentine has been recommended,—say a two ounce vial full for a bushel, to be sprinkled over them, stirring well, immediately after being winnowed and before being put away for use the following spring.

MILK, OR PUERPERAL FEVER.

I wish to make some inquiries as to what you think was the trouble with one of my neighbor's cows. She calved Sunday last, was taken sick Monday night and died Tuesday night. She was in considerable pain; bloated some. After she died they opened her, and found her manifold quite dry and the appearance of a great deal of fever. The large milk veins were full of clotted blood which would string out some eight or ten inches long without breaking. The milk did not wholly cease to flow until death. The cow was in good condition, and had been fed carefully though not highly.

H. W. LOUGHE.

Lewiston, Me., April, 1871.

REMARKS.—Doubtless this cow died of milk fever, commonly so called, but more properly *puerperal* fever, which, in the human female is called child-bed fever.

The symptoms of this disease are a partial or total suppression of the secretions of the bowels, kidneys, skin and udder; intense pain in the bowels, and not unfrequently in the head, which is manifested by great restlessness and irritability, with protrusion of the eyes and tongue; bloating of the bowels, with tenderness of pressure, &c. The cows most liable to this disease are the well fed and plethoric. Says Prof. Law, “This disease is essentially connected with plethoric or excessive formation and richness of blood. Its victims are mainly the cows that lay on flesh rapidly, or those that give an abundance of rich milk. A strong, vigorous digestion, therefore, properties which render their possession so valuable for feeding or dairy purposes, are precisely those which predispose them to this destructive complaint.”

To prevent the occurrence of this disease, pursue a course like the following: Keep the animal on a spare diet for a week before and after calving. Have the bowels loose at the time of calving, and

if there is much milk, draw it off clean thrice daily, at first. Give little more than gruels for the first two days, but increase the amount of nutriment by degrees, so that she may have her full diet at the end of the first week.

The treatment of *puerperal* or milk fever should consist of purgatives of Glaubers, Epsom or Rochelle salts; ice bags to the head; damp sheets laid over the body and covered by dry ones; sponging the surface with tepid water; copious injections of warm water; and if the secretion of milk has ceased, warm fomentations to the udder.

Dr. Dadd recommends the following aperient for keeping the bowels in a proper condition. Rochelle salts, four ounces; manna, two ounces; extract of butternut half an ounce. Dissolve the above in three quarts of boiling water, and when cool, give the whole at a dose. J. H. S.

ASHES WITH CHIP MANURE.

In reading your valuable paper, I find that last fall I made a mistake, and now wish to know how to rectify it with least loss to myself. The trouble is this:—Last fall I put into my hog yard some hundred and fifty bushels of rotten chips, &c., and then on the top of them I put some thirty or more bushels of wood ashes, spading the mixture well.

I now learn that I have made a loss on these fertilizers, and wish to know the best method to pursue in their use. I designed the mixture as a dressing for my corn field. Must I be careful about mixing ashes with other manures? Will it always cause an escape of the gases and a consequent loss? Please give me the desired information as the season for planting is at hand. S. T. WATKINS.

Peru, Mass., April 17, 1871.

REMARKS.—If the ashes have driven off the ammonia and other gases from the mixture, we know of no way of enticing them back to the compost. Having been thoroughly mingled with the chip manure we doubt whether the ashes have caused you any serious loss, and hope that the result of your dressing will not disappoint your expectations. We submit your question to the readers of the FARMER who are versed in chemical science, or to those whose experiments have demonstrated the reasons for the general opinion of the impolicy of mixing unleached ashes with manure.

REDUCING BONES.

Last year I collected a lot of bones and reduced them in the following manner. Put them into a large arch kettle or boiler, with an equal bulk of good hard wood ashes; then poured in water enough to make a thin mortar, and boiled the mass from one to two hours, when the bones become completely dissolved or broken down with the exception of a few hard shin bones. The mass was shoveled into a box and allowed to remain a week or so, when the remainder of the bones completely disappeared. Before using, I dried it off with dry loam and plaster, and ground it fine with a hoe. A little was used in the hills of different crops with excellent results.

* Now, brother farmers, collect the old bones about your premises and manipulate as above directed, and apply it in the hill of anything you choose, remembering to kick a little soil over it before you drop the seed, and in the fall you will find this receipt worth at least one year's subscription to the NEW ENGLAND FARMER.

Stock of every description is looking well this spring. The prospect for a good hay crop is not very flattering. The new pieces were all killed by the drought last summer or the freezings and thawings of the winter. Grass in the pastures looks quite green, and young sheep and weathers now get their living. Hay sold at auction, April 22, for \$17.50 a ton; corn, \$1.03; wheat, \$1.95, but it was nice seed wheat; cows from \$30 to \$60; and seven-foot working oxen, \$175; Orono potatoes are worth one dollar a bushel; Early Rose, for seed, two dollars.

I am glad the time has come when we can get superphosphate for a reasonable price. I saw Geo. Upton's advertisement of the Brighton Phosphate in the NEW ENGLAND FARMER, and have ordered and received one-half ton. I shall make an impartial comparative trial beside other fertilizers, and give the result to the readers of the FARMER, without fear or favor. S. C. PATTEE.

Warner, N. H., 1871.

TIME TO SET OUT PEARS, QUINCES AND ROSES.

Is the present a good time to set out pear trees? Will it do to transplant quince trees now? When is the best time to set out rose bushes? Would it be profitable for a new beginner to study books on gardening, and which is best? GEORGIE.

Dedham, April 21, 1871.

REMARKS.—If you have not done it before, pear trees, quince and rose bushes may be transplanted the first of May, especially if they were taken up before and the roots kept covered with soil. We think you will find it profitable to study books a little, especially if you practice pretty hard at the same time. Cole's Fruit Book, which possibly you will find in your library, is a good book for beginners. Thomas' Fruit Culturist, a larger book, is also good.

ENGLISH BENT—*Agrostis alba* (?)

Enclosed find specimens of grass which by many farmers here is supposed to be the orchard grass. It ripens between the June grass and redbtop. I find it makes good hay, and that it thrives on the edges of reclaimed meadows. Is it the true orchard grass? If not, what is it? LEWIS BEMIS.

Rock Bottom, Mass., April, 1871.

REMARKS.—It is not the orchard grass, but belongs to the same family as the redbtop. Being undecided as to the name of the variety we consulted C. L. Flint, Esq., author of "Grasses and Forage Plants." He has little doubt that it is the *Agrostis alba*, or, as it is variously known among farmers, English Bent, White Bent, Dew Grass, Whitetop, Bonnet Grass, &c., but from the absence of flowers, &c., and from the condition of the specimens, which were evidently taken from a mow of last year's hay, he was not entirely satisfied as to its identity.

COOKING FOOD FOR STOCK.

One of the most definite and satisfactory statements I ever met with in print or otherwise, was one recently published in the FARMER, of an experiment on feeding twenty hogs, copied I believe from a western paper.

What I had proposed to say in reference to this important subject, is that boiling corn renders it equal to, or better than meal. I have many times fed to my horse, corn boiled say from fifteen minutes to a half an hour, or until the corn is pretty

well softened. My horse likes it much better than hard corn. Unless a chopped and mixed feed is used, I consider corn boiled, quite equal to, and I believe better than meal for ordinary work. From being clean, there is less trouble and inconvenience in boiling corn than in boiling potatoes.

Blue Hills, Mass., April, 1871. AMERICUS.

MAPLE SUGAR.

The sugar season is now closed and farmers have commenced their spring work. It has been a rich season to those who have worked among the maples. The sap, though not quite as sweet as some seasons, has run freely, averaging nearly four pounds of sugar to the tree, where only one spout is used. We have plenty of rain, with occasionally a flurry of snow on the hills. Grass is starting finely. Sheep could now get their living upon the hills.

PLOUGHING AND HARROWING IN MANURE.

I have been interested with the articles in the *FARMER* with regard to ploughing and harrowing in manure, and I would like to suggest to the farmers that each one take a piece of land, some where from a rod square to an acre, and manure one-half of it; plough the whole, then manure the other half with the same quantity and quality of manure as the first. Then harrow and plant, or sow as they like, and not only notice which half produces the best crop the first year, but which holds out the best when laid down to grass, and then report to the *FARMER*. If farmers will try experiments more, and report the results of these experiments, it would be an easy matter to have another page in the *FARMER*, as has been suggested, like the first.

C. M. FISHER.

Cabot, Vt., April 20, 1871.

KILLING FLIES.

A correspondent in *NEW ENGLAND FARMER* last year gave his experience by burning pumpkin leaves to kill flies, and asks others to report their success or failure by the same method. When I first saw the advertisement I tried it immediately, and as the smoke ascended to the ceiling the flies betook themselves to the floors; but as soon as the rooms were cleared of the smoke the flies directly mounted aloft with all the life and vigor imaginable. The offensive smell of the pumpkin leaf smoke was left behind, and it was several days before we could get rid of it, and it occasioned a deal of trouble in hanging out in the open air clothes, table covers, curtains and other woven fabrics.

JOHN WHATMORE,

Bridgforth Farm, Dunleith, Ill., 1871.

INCOME FROM ONE SOW.

Joseph Pierce will have to try again. I had a sow that dropped 13 pigs March 1869, raised 10, sold 9 at 4 weeks old for \$45.00, fattened one worth \$30.00. In September she dropped 13, sold them at four weeks old for \$62.00. March, 1870, she dropped 16, lost 8, sold those that she raised for \$38.00. In August she dropped 13, sold them for \$58.00. Sold the sow in November for \$15.00 for a breeder, without fattening her, as Mr. Pierce did his. So you see I am too much for him. Total \$278.00.

N. HORN.

Barnston, P. Q., 1871.

TREATMENT OF URINE.

Having noticed the inquiry of Mr. E. Williams, of New Hampshire, in relation to the management of urine, I will give my method which is as follows:—I use dry muck enough to absorb the urine, add to that half as much unleached ashes as there

was of muck, mix them well together, then add half as much plaster as ashes used, and mix again, when it is fit for use. One handful in the hill, slightly covered with earth before dropping the corn, has done wonders for me.

S. P. GREENLEAF.

Starks, Me., April 25, 1871.

For the New England Farmer.

MAKING MANURE.

In erecting a house, the first requisite is a good solid foundation of stone or some other suitable material. So, in farming, the first requisite is a foundation of good manure. With this conviction, I began on a poor worn out farm, nearly forty years ago. All the stock I could then keep was one pair of cattle and one cow. The first question was, what shall I do for manure to feed my crops? I knew they would not grow without food any more than a child would. I began to look about to see what I could find. There was not much turf on my land, certainly none to spare. So I went to the road, and dug turf beside the fence and drew it to my barnyard. In this way I got quite a large pile.

But I was not satisfied with this, and thought I would put some of this turf into my stable under my oxen and cows, and mingle with it the droppings and urine from the stock. I kept this under cover as much as I could to preserve it from the rains and wind. In a short time I found that the stable floor was becoming rotten, and I concluded I would take it out of the way and not have any floor at all. I did so, and filled up with loam and mud, making a bed on which the cattle could lay comfortably. By working this over in the stable I got another large pile of good manure. With the compost thus made, my crops soon increased so that they filled the whole barn, which was thirty by forty feet, including the old stable, and I built a new stable, thirty feet long on the south side of the barn, without any floor, and with passage-way and doors so wide that I could drive my horse and cart with a load of muck in at one end and out at the other. This stable will accommodate eleven cattle, but I have not as many now.

I fill up this stable with muck about three feet deep, which is covered with loam or turf to keep cattle from sinking into the muck. I begin to stable my cattle about the first of November. After a few days I begin behind the cattle, and dig down to the bottom of the muck or to the ground, and throw it aside for bedding, and fill up the place from which it was taken with the droppings and such portion of the muck as has been saturated with urine. In this way I go through the whole length of the stable, behind the cattle. Then I begin with the muck on which one animal lies, and after removing this, fill up the space with manure, &c., as before. Thus by digging it up every week, the whole is dug over. This process of digging over and mixing the

muck and manure takes about an hour and a half each week,—not much more time than is usually required where cattle are kept on a floor. In this way I make a large pile of strong manure, much more than when I bedded my stock on straw and poor hay. In fact I think I can make as much manure with ten cattle in this way as with forty in the old way. An incidental advantage that may be mentioned in favor of this mode of stabling, is the exemption of my stock from lice, which I ascribe to their lying on the ground or rather on the materials above mentioned.

I endeavor also to convert my horse stable and hog pen into manure factories. I draw up muck and loam and put it in a pile near the horse barn and hog pen, which are connected. I bed my horse first with muck and loam, then with straw or hay or leaves. This remains until it is well filled with the droppings and urine, and is then thrown into the hog pen, where the hogs work it over nicely. This is done almost every day in the summer, and in the winter when it is not cold enough to freeze the muck. This manure is all under cover and away from the rains and wind, and it proves to be an excellent fertilizer for wheat, corn, grass or any plants, for it is very strong, and I am anticipating the best results from a large pile of it now on hand, and more I think than would have been made with ten horses and thirty hogs in the old way, without using material with it.

Now, a few words on the out-door compost factories. I have three yards. One of them is east of the barn, where my cattle run in the winter while drinking and airing themselves, and a portion of the time in the summer. I cover this yard about one foot deep with muck, to begin with. When it is pretty well covered with droppings, I draw in more muck and cover over the surface, and repeat the process, as I deem necessary. Formerly I ploughed and harrowed the yard fine, but from the strong smell that arose I concluded there must be a considerable loss of fertilizing properties, and have not ploughed the yard recently.

The second is at the south end of my barn. This being a little sloping is dryer than the other, and is used as a milking yard in wet weather in the summer. What little wash there may be from this yard runs on to my mowing lot and is not lost. Muck is put into this yard and managed as in the first yard.

My third yard opens into the lane that leads to the pasture. I keep this covered with muck and loam all summer. The muck ought not to be too thick, as the sun and air must have a chance to operate on it to neutralize its acids, &c.

These yards furnish a large amount of compost, which I find valuable for top-dressing for rye, oats, wheat and for seeding down to grass. I find it pays for the labor it requires; and as I have done all this work myself for years—I do not recollect of employing a hand at it for

a single day—I ought to be able to know about what it costs.

When I draw my manure to the field, unless I am going to plough it in soon, I step on to the heap with dung hook in hand, and haul on turf and earth to prevent the gases from floating off in the air to come down in a shower on some other farm. I have noticed that the earth thus hauled on to a heap would become yellow, as I suppose from the ammonia or other gases which were absorbed by it.

I have now not far from fifty acres of ploughed land on my farm, without a stone to interfere with cultivation, nearly all of it in one lot. When I purchased it, a piece at a time, it would not yield over six bushels of rye per acre, except about ten acres of new land, which I cleared up, that would yield more. The rest of my farm consists of meadow, pasture and wood and timber land. Since I have taken this way of making manure, I have sold hundreds of dollars worth of hay, and I might say thousands, without exaggeration, and I think my farm is growing better every year.

Early in the spring I commence collecting materials for composting. On thawy days early in March I go into the lot and bring up muck and turf to be used for swelling the manure heap, in the various ways which I have described.

If what I have thus written, which is as near my practice as I can recollect, shall be of any value to any one of my brother farmers, I shall be rewarded for my trouble, though from want of education and habit of using the pen, it is quite an effort for me to write, even with the aid of the editor in the matters of grammar, spelling and smooth language.

M. L. GOODELL.

South Amherst, Mass., April, 1871.

ALSIKE CLOVER.—At a late meeting of the Orleans county, N. Y., farmers' club, the subject of Alsike clover was alluded to. Mr. Rogers said he mixed seven quarts of the seed with seven of timothy seed, which was sown on four acres. This cut some ten or twelve loads from which he threshed 12 bushels of seed that sold for \$12 per bushel. Found the straw good fodder; it is not dusty, and stock eat it up clean. Does not have a tap root, and may not be so good to improve the land as other clover. Says Alsike don't last but one year, and the first crop must be taken for seed, and must be cut green or a large part of the seed may be lost. Thinks it a good crop to raise, and that it will furnish as much feed for one season as other clover.

Mr. Blood don't think Alsike heaves out as bad as common clover, but says it don't do as well on high as on low land. Mr. Beckwith said horses eat it better than common clover. It seemed to be the general impression that Alsike is not so good to improve the land as common clover.—*Country Gentleman.*

APPLES AND THE APPLE TREE.



LAST year the apple crop was so abundant as to completely upset the theory of some, that the race of apple trees was run, and were never again to be productive in New England. Generally, the crop was a large one, and yet, in some localities, of comparatively small extent, there was hardly a medium crop.

At the time of harvesting, the price they brought was considered low: but those of first quality paid rather better than most crops of the farm. Large quantities were fed out in a cooked and raw state to the animals of the farm,—horses, cows, pigs, and poultry, and did good service in that way in the midst of a very trying drought. Other large quantities were converted into cider, and thus providing that article for the table, and to replenish the stock of vinegar, which had become greatly reduced.

While attending the recent agricultural meetings in the towns of Derry and Chester, N. H., we learned that the apple crop was very large in that region; that those of first quality sold last fall at profitable prices, and that a large amount of cider was made, much of which is still on hand. It was estimated by some of the intelligent citizens of Chester, that about 15,000 barrels of apples were harvested in that town last fall, and that they were worth \$20,000. Mr. LUCIEN KENT, of that town, who very kindly took us from Derry to Chester, after the adjournment at half-past nine, of the Derry meeting, informed us that he had within a few weeks purchased in Chester and sold again some \$3000 worth of apples for the Boston market. The average price to the producer has been \$2 per barrel. The apples grown in this town have been long esteemed for their excellent qualities for transportation, and have been selected as among the best to be exported. Although some forty miles from Boston, they have usually brought twenty-five cents more per barrel

than those grown in less than half that distance from that market.

Some time in January, there was a real or fancied scarcity of apples, and dealers went to Chester in search of them. In their early inquiries they were told that a great many apples were harvested last fall, but that the crop had generally been sold at that time. But upon more extended inquiries it was found that nearly every family had laid by a few barrels of their choicest fruit, and that in some instances, from five to fifteen barrels were found, and in one cellar were more than one hundred barrels of number one!

Mr. S. F. LEARNARD informed us that in putting up this one hundred barrels, he found less than a peck of imperfect ones. He gathers them from the first to the middle of October, and takes them from the orchard directly to the cellar. They are then placed in bins, set up a little from the ground, and some three or four feet high and three feet wide. The bin should be tight, with the exception of the top, as a draft of air passing among the fruit causes it to shrivel. The top of the bin is covered with loose boards. He finds that apples in this condition, in a cool cellar and of even temperature, will remain for several months and come out fresh, juicy and crisp, and in fine flavor. He has no difficulty in selling all he can raise at highly remunerating prices. He thinks many apples are gathered too early, and that an important change takes place in the last few days, in the coloring and ripening, which greatly affects their keeping qualities.

We trust our readers will not be discouraged about the apple crop, but will continue to plant trees which will produce the best varieties of apples, when well cared for.

In some recent articles we have called attention to the cultivation of forest trees, and will now add some remarks with particular reference to the trees which produce this leading and favorite fruit of New England.

The skill and care required in taking up and setting out young apple trees in order that they shall live and grow thriftily, does not seem to be sufficiently impressed upon the minds of many who are attempting to rear them.

The selecting a good tree and burying its roots in the ground, is by no means all that is embraced in the work of transplanting. By

placing the plant in a rich soil, and in a favorable locality, by protecting it from enemies and other injurious influences, by suitable pruning and training, and by furnishing to it a bountiful supply of appropriate nutriment, it will develop itself fully, and carry its products to high degrees of perfection. The same principles are present which are involved in perfecting the breeds of animals. Like begets like. By a repetition of the elevating process, by planting and cultivating in the same skilful manner in which we began the seed or fruit of the more fully developed and perfected tree or plant, we shall at length obtain trees incomparably more beautiful and perfect in form and fruit, than the original from which they were derived.

It is folly to attempt the rearing a good orchard with trees that are in any way faulty. Such as have made what growth they have on a poor, starved soil; on a soil that has been too wet; where the trees stood too thickly, or were, from any cause whatever, checked in their growth, become moss-covered and acquired a stunted habit. Such trees are not worth setting out, even if they cost nothing but the setting. It is poor economy to encumber the ground with them. Trees should be grown on a good, generous soil, kept growing throughout the growing season, so far apart in the nursery as to allow them to expand in every direction, and pruned and shaped during their growth, so as to be in proper form for transplanting.

An acre of old pasture, which is too stony to admit of profitable cultivation for grain or grass crops, will be found more favorable for the trees, than smooth soils which have been devoted to the common crops of the farm. The old pasture soil will contain many elements that will give rapid progress to the trees, and their rocks will give out feldspar and other properties which will greatly promote a vigorous growth. When the trees come into bearing on such a soil, the fruit, also, will be found better than on more loamy or sandy soils.

The next step to be attended to in the cultivation of apple trees, is the preparation of the ground. Among good cultivators in England, when trees are to be set in a row, even if they are to be thirty feet apart, a strip of ground about six feet wide, the whole

length of the row, is prepared with the spade from eighteen to twenty-four inches deep, and made rich by the addition of compost or marl. On the contrary, in this country, it is common to dig a hole about three feet in diameter, eight or ten inches deep, and throw in a few shovels full of the top soil for the tree to stand on, or if the land is in grass, to place a sod bottom up, under the tree. The cheapest course in the end, is to dig holes five or six feet in diameter, and some fifteen to eighteen inches deep. Throw the top soil on one side and the sub-soil on the other. Loosen the earth in the bottom of the hole with the spade. Throw back the top soil into the hole, level and set the tree upon it in the centre. The hole, six feet in diameter, will now allow ample room to spread out the roots in every direction, and with the greatest ease and facility. Throw surface soil over the roots, and work it down so as to fill all the openings among them. If this is not done, air, warmth and moisture will be likely to cause mould about the roots and destroy them. As to depth, trees should stand about as they grew, when the earth is settled about them. The roots should be placed, so far as is practicable, in the position in which they grew, and at about the same depth at which they had previously stood. The earth should then be gently pressed about them, and the hole filled to a little above the level of the surface,—enough above to allow for shrinkage or settling.

We would not advise to set apple trees upon a soil where water stands near the surface in the growing season. They may live and grow, but will scarcely prove profitable. Some persons occupy such land with apple trees because the location is just where they desire it. They dig ample holes and fill them to within six or eight inches of the surface with small stones, cover with good loam and compost manure, and raise a slight mound around each tree. This moist land, especially if of a heavy character, when thoroughly drained, makes an excellent soil for apple trees. Thirty-five feet apart is as near as apple trees should stand, or thirty feet one way, and thirty-five the other, leaves a good space for teams to pass through.

Every good tree, properly taken up and set as we have described, may be reasonably ex-

pected to live; will grow thriftily and present symmetrical and beautiful forms, and a heavy, rich foliage.

It is estimated that fully one-half of all the apple trees which are set in New England never come to bearing. Some of those even, which are set with proper skill and care, are so much neglected afterwards that they gradually die out. Pruning them is not attended to, or if done, is performed at the wrong season of the year, when the sap runs from them as freely as from the maple in a sugar orchard in March. After a year or two of cultivation, the land upon which the trees stand is laid down to grass, so that they soon lose their vigorous appearance, grow very slowly, become covered with moss and are in just the condition to be attacked by borers, bark lice, and other enemies which infest young trees.

The crowning evil of all, however, is turning cattle into the field where the trees stand. When the fall feed becomes scanty they browse the trees, catching hold of the end of a branch, biting it off, or, if it does not yield, splitting the limb down from the stem of the tree. Then they scratch their oily necks, or comb their shaggy foretops by rubbing against them. We can point to many acres of young apple trees in just this condition to-day.

This is a somewhat expensive operation; one which but few farmers can afford, if indeed, any can. Two orchards are now in our mind, planted about the same time, opposite each other, the highway only dividing them. One of these is in the wretched condition described above, and the other, thrifty and beautiful, and has already returned products which have more than paid all its cost!

BENJAMIN LIVERMORE.—The *Vermont Journal* contains an obituary notice of this gentleman, who died at his residence in Hartland, Vt., April 4, in the fifty-third year of his age. Mr. Livermore was a frequent contributor to our columns, but perhaps he will be best remembered as a writer on the subject of cement pipes and cisterns, to which he had devoted much thought, and in the construction of which he had much practical experience. He was also the inventor of a pocket writing machine, and a little contrivance of his for window flower pots was illustrated in the *FARMER* last year, —Monthly, page 199. His articles were practical and suggestive, and from a personal acquaintance, we can fully endorse the remark of the writer of his obituary that "he was one who in all the relations of life was indeed a worthy and valuable man."

For the New England Farmer.

HAY AND STRAW---NO. 3.

Varieties of Grasses.

It is highly probable that we are on the eve of radical changes in the varieties of grasses cultivated. Heretofore two or three varieties have monopolized the fields we have stocked down.

Herds grass is the general favorite. Very few other grasses are allowed a test of their qualities. Orchard grass, that has so often been commended by men of good judgment, is not receiving the attention its merits deserve. Clover also fails to win its way to general favor, notwithstanding it is found quoted in English papers at from ten to fifteen per cent. higher than hay. It has no market value with us. It is rare that it is properly cured in our country. To this fact may we ascribe in a great degree the general unpopularity it has attained. No hay is equal to it for feeding sheep, horses, and cows. A large milk farmer of Chicago states that he can obtain fifteen per cent. more milk from a ton of clover than from the same quantity of herds grass. Our farmers differ widely in reference to its value. If in the damp climate of England it can be cured so as to be unobjectionable, I see no good reason why we should fail to accomplish it here.

The new clover from Sweden called *alsike* is attracting much attention. Judging from reports given of it by those who have cultivated it, it is winning its way to general favor. It is thought to possess qualities superior to those of our common red clover. Information respecting it is being sought for through our agricultural papers from every quarter. Since commencing this article I find in the *FARMER* of to-day (April 8th) a correspondent inquiring for information respecting it and also in respect to orchard grass; there are also two leading articles under the editorial head treating of these grasses, and a correspondent, (A. W. Chever,) gives us his views of orchard grass, &c. You say, in your editorial, that "orchard grass is not cultivated to half the extent which would prove profitable." I think your statement a very modest one, considering the authorities we have to sustain the fact of its being the most valuable grass, both for hay and pasturage, we have. You quote from Mr. Flint's work on Grasses and Forage Plants. His whole article on *Orchard Grass* comprises a mass of evidence in its favor that every farmer should well consider. It is to be found on pages 66-69 inclusive. Judge Buel is referred to as an advocate for its general cultivation. Desiring information from him respecting this grass, he urged my making it my principal reliance for hay and grazing. For the latter, there can be no doubt of its being the most valuable of any of our grasses. In both cases

it would probably be best to put other grasses with it to insure a perfect sward.

Market Value of Straw.

As to the question of raising *straw for market*, I feel that I am dealing with a subject that will probably provoke criticism. Nevertheless I will venture to mention a few facts and give a few suggestions and leave it for others to amplify, if disposed to do so.

A correspondent of yours (Mr. Henry Poor) in his article published to-day on the culture of wheat, furnishes me with a text. One of the reasons he urges for the culture of wheat is the growing demand for straw. I think that is the only argument of much weight he presents for our consideration. Let us see what the figures tell us—for to these we must ever appeal for the solution of about all questions relating to the feasibility of our farm operations. Does it pay? is the pivot on which our business operations must revolve.

Not many years since a friend raised 78½ bushels of merchantable corn to the acre on 35 acres. The same season he raised 36 bushels of wheat to the acre on eleven acres. He told me he lost by raising the wheat about \$34 an acre, making for the whole eleven acres \$372; in other words, he would have been that much more in pocket if he had put in corn instead of wheat. Wheat was worth at the time \$2 per bushel and the straw \$6 per ton. The straw was estimated at ten tons to the acre. As the straw was threshed with a machine it was unfit for market. Corn was worth at that time \$1.25 per bushel and the fodder \$20 to the acre, which was the price of a ton of hay. The usual value of corn fodder in the town where it grew was estimated to be equal to a ton of hay to the acre.

We will examine the comparative result. If the wheat had been threshed by flail, and the straw neatly baled and sold at the prices now obtained, and the wheat and corn at the prices named above—viz: \$72 per acre for the wheat, and for the corn and fodder \$117.82. Adding the present value of baled straw, \$40 a ton, to the value of the wheat, and we have \$152—thus reversing the results obtained by my friend in his operation. Instead of losing \$312, he would have gained that amount, making a difference to him of \$744. These figures are startling to us, but how are we to get away from them? Suppose we reduce the price now obtained for straw one-fourth—we have a gain of \$558.

It will be said we cannot afford to go back to the old method of threshing and discard the machine. Is any one *sure* this is so? I have often thought it was not, when reckoning up the cost of machine threshing. Suppose you go into a close calculation of *all* the items of expense incurred by using a machine. If you do not own one yourself you pay by the bushel,—board men and teams, furnish hands of

your own, &c., &c. When you have got all the items together they will, if I am not mistaken, surprise you. Many reasons might be suggested in favor of threshing with flail that will readily occur to all—not the least of which is that it would furnish work for men desirable to retain, at times when no other profitable employment could be provided for them on the farm.

The quantity of straw that can be obtained from an acre depends of course entirely upon the *character* of the soil, mode of cultivation, and the *skill* of the farmer. No one need expect two tons of straw from a sand drift, a bog, or a clay bank. Even the most productive lands will not do it without skilful management. I have known rye to grow seven feet tall, and a piece of two acres to average over six feet in height, yielding sixty-five bushels of grain, notwithstanding much was wasted by unskilful cradling. I have taken twenty-three bushels of rye and a ton and a half of straw from half an acre of land. I do not think there is much danger incurred by manuring lavishly for this crop. From experience with rye sown on land very highly manured for tobacco, I think there need be no fear of manure harming it in any way. I sowed two and a half bushels to the acre, the beginning of September and ploughed under the first of the following June. The straw was about five feet high and seemingly as thick as it could be. Some of the neighbors estimated the quantity of straw as high as four and five tons to the acre,—none of it lodged permanently. Heavy winds and rains occasionally laid it, but it soon recovered. This treatment was tried two seasons in succession on the same field. Many have since adopted the same method with profit and satisfaction.

Let us suppose we have a meadow we wish to stock anew with grass. Plough it *after* haying, scatter on the manure and some ashes (if they are of use on your land) sow to rye, without being afraid of getting it in too early, for a good covering of the ground is desirable for winter protection. As soon as the grain is *full* (not ripe) cut it, as the straw will be tougher and the grain better. Plough under your stubble, put on more manure—plant to turnips, or, better still, have cabbages ready to set, and if they do well, will make you more beef and mutton than any other crop from the same surface. As soon as this crop is off prepare for the hay seed. Sow any time after winter sets in when there is snow on the ground sufficient to hold the seed. Do not be afraid of losing the seed. It is sure to take if your land is in good condition, and ready to mow as soon as your other hay is out of the way. By adopting this suggestion, hay, straw, grain, and cabbage crops are obtained in two seasons, and the grass crop secured for the third.

It may appear to some to be needless for me to say that in preparing hay and straw for

market, the work should be done in the neatest possible manner, and all of *uniform* quality throughout. Great loss is often incurred by neglect in these respects. Slovenly packages of good and bad qualities intermixed, are difficult to sell, while neat packages of uniform good quality are taken without haggling at much better prices. As an illustration of the working of these two ways of doing things, I will quote the words of one of your editors to me to-day that "over in the market there is butter sold every week as soon as received for \$1.25 per pound, while the general price is from thirty-five to forty cents per pound.

Those having to pay freight long distances on bulky commodities cannot afford to send a poor article, as the expense of getting a poor article to market is the same as with a good one. The method of baling was much improved during the war, and the improvement may now be in use. It consisted in compressing an ordinary bale into one-half its ordinary bulk. This end was also attained by the use of the Beater Hay Press which *beat* the hay together as it was pitched into the press—thus getting twice as many pounds in the same bulk as was usual by the old process. The work done by these presses is perfect. I saw a bale of hay in New York that was packed by one of them which was sawed in two and on the ends engraven the name of the press with as much distinctness as if cut in wood. I should think it would be difficult for water to penetrate it. These presses are more expensive than the old ones. A neighborhood might combine and own one for its own use, or the same principle be adopted as is common with threshing machines,—the owners doing the baling for a fixed price per ton. It is possible and highly probable that hay will be in the near future baled in the fields as soon as properly cured. I am also of the opinion that it will not require as much curing put up at once into compact bales as if put into bulk in stack or mow. It would save much in weight and much in quality and value to the consumer.

K. O.

April 8, 1871.

For the New England Farmer.

IMPORTANCE OF GOOD SEED.—CULTIVATION OF CORN.

I notice in the FARMER of 25th inst. a communication from K. O. on the importance of good seed, which is a subject that ought to interest all Farmers. I shall pass over his remarks on beets, for that is a crop which I have not raised to any extent. But having given considerable attention to raising corn I agree with him generally in cultivating that crop. First in regard to seed. There are many varieties of corn raised in New England, some of which will yield sixty to eighty bushels to the acre, according to the season;

and other varieties which are in favor with many farmers scarcely half as much, with nearly the same cultivation.

Many farmers plant the old varieties that they have raised for a generation, and it is extremely difficult to persuade them that their crops are not about as good as anybody's, though their yield is only thirty-five to forty-five bushels to the acre, rarely fifty bushels. They object to a large variety because, as they say, it has a great cob and it will not get ripe; that it makes a great growth of stover, exhausts the land, &c. Many of them have not learnt that corn stover is worth nearly as much per ton as English hay to feed to stock; and that one acre of corn stover of a yield of seventy-five bushels to the acre will more than keep one 600-pound cow from the time she goes to the barn in autumn till the first of April, with two quarts of shorts a day, and give milk and keep in good condition, but some have learnt it.

Many prefer a smaller kind of corn because it has a small cob, the ears are well filled out, and it makes nice meal, when we all know who have tried it that it is only the large varieties that will produce a large crop, while the smaller varieties will only produce a moderate crop with the same cultivation, and the stover from it will not more than half keep a cow through the winter.

K. O. is correct in regard to the yield to the hill. Four ears is as much as the large varieties will yield and four and a fraction of the smaller varieties. Of the large varieties 200 ears will make a full bushel of corn, but of the smaller varieties 300, or more, are required.

K. O. says he planted a field of 25 acres heavily manured. The term heavily manured is not sufficiently definite for practical purpose. It may be thirty loads to the acre, or ten or twenty more, which would make quite a difference in the cost of the crop. My mode of cultivation is to spread fifteen loads of a thirty-five bushel wagon to the acre of pure stable manure, and put a moderate shovelful in the hill, requiring about twenty-five loads in all. I do not think it economy to use more than twenty-five loads of manure to the acre. From my experience I conclude that not more than one bushel of corn or other grain, or one hundred pounds of hay would be added to the crop for every load of manure above that amount.

I furrow $3\frac{1}{2}$ feet each way, which makes about twenty-five hills to the rod of land, and with four ears to the hill I have a bushel of corn for every two rods of land, making eighty bushels to the acre. My yield last year was seventy-five bushel, a little less than a bushel of corn to two rods of land. I intend to plant five kernels of seed to the hill to make sure of four good stalks. But for some reason my field did not have four full stalks to the hill last year.

It is important to cover the seed carefully, so that the corn will come up straight, and take a good start. If there are stones or coarse earth over the seed, so that it comes up on a slant, it does not grow well, and the crop is injured.

Then I do not plant many pumpkins in a cornfield, for I am satisfied they injure the corn more than they are worth. I have seen a field dressed with thirty-five or forty loads of good manure to the acre, the corn covered in a careless manner, and pumpkins planted in nearly every hill. The pumpkins grew so luxuriantly that they nearly smothered the corn, and the result was a yield of only about forty baskets to the acre, where there should have been nearly twice as much.

My advice to farmers where they buy seed corn is to satisfy themselves in regard to the yield of the field from which it was taken, the amount of manure applied, then examine the kernels, and if the sample ears are not more than nine inches long, you cannot measure more than forty bushels to the acre from that seed. Seedmen cannot always be depended upon. Some of them will not pay an extra price for an extra quality of seed, but buy of a farmer who will sell at twenty-five or fifty cents a bushel above the price of corn for seed.

J. H.

Shrewsbury, Mass., April, 1871.

AGRICULTURAL ITEMS.

—At present prices, eggs are cheaper than beef.

—George Wood, of Harrisville, N. H., has made 2300 pounds of sugar from four hundred trees this year, and only one spent to a tree at that.

—There is a curious plant now at the Government green house, in Washington, which closes its palm on anything put on it.

—One blacksmith in Boston has taken from horses' feet two hundred nails which had been trodden upon and buried in the feet of the horses, by being carelessly thrown into the street.

—Including loss from shrinkage, rats and mice, interest on money, &c., a farmer in Ohio thinks it more profitable to sell corn at fifty cents a bushel in the fall, than at seventy cents the next summer.

—George W. Carr, 2d, of Waterford, Vt., has a flock of thirty-five Leicester ewe sheep that averaged 170 pounds each a few days before they begun to drop their lambs.

—The first American rail was rolled some thirty years since. Last year more than 600,000 tons were made, more than half in Pennsylvania, and the rest in New York, Troy, Rome, Syracuse, Elmira and Buffalo.

—A hen belonging to Mr. Abraham J. Borden, residing on the Chase road, Dartmouth, Mass., was recently noticed to move about lazily, and appeared to be very heavy. She was killed, and found to contain sixteen full-sized eggs, half of them hav-

ing hard shells, and the others partially shelled over, four more about half the usual size, and many others, as is usual in hens, in all stages and sizes. She weighed, after being dressed, two pounds and ten ounces.

—No broom corn is to be raised in Northern Illinois this year, the present ruinous prices having terrified the farmers. The market price is now only from twenty to sixty dollars per ton, and the corn cannot be raised for less than seventy dollars.

—The toad is a great destroyer of insects, and on this account has been found very useful in gardens for exterminating the striped bug, squash bug, flea-beetle, &c. It is very destructive to bees, and should be banished from the apiary.

—It is stated in the *Horticulturist* that one of the most successful cold graperies near Philadelphia has every third section of lights made entirely of blue glass. It is an important fact that colored glass does affect very materially the growth of vegetation beneath it. Thus, blue glass admits the chemical rays, to the exclusion, or nearly so, of all others; yellow glass admits only the formation of luminous rays, while red glass cuts off all but the heating rays. Yellow and red rays are destructive to vegetation; violet, indigo, or blue, are favorable to it.

—Elias Burnell, of Franklin, N. H., informs the New York Farmers' Club that granite boulders can be split cheaper with fire than with powder and drill. Make a slow fire across the rock in the direction in which you wish it to break; keep it up for one hour, more or less. When the rock begins to heat thump on it with the point of a bar where it is hot, and if it has started a scale, remove it, and keep up your fire as before. The heat will swell the rock near the fire, and if the rock is sound will crack it where it is not hot. Put your ear to it while the fire is burning and hear it crack. One man will break more hard rocks with fire in that way than a half dozen with drills and powder. You need not throw on water, as that will not do the least good.

FARMERS' CLUB.—The farmers of Elvaston, Ill., have formed a club, which in addition to the objects generally contemplated by club organizations, embraces the purchase of such farming implements, fruit trees, and other supplies as may be needed by its members, and also assistance in the sale of produce, stock, &c., by which heavy commissions, &c., will be saved. The constitution and by-laws are published in the *Prairie Farmer*. An admission of fifty cents is required of members. Those who wish to order any implement or other article are required to advance at least twenty per cent. of the probable cost, and full freight, the balance to be paid on delivery. There are to be three regular shipments of implements, yearly. Those having produce, stock, &c., for sale are to furnish the secretary with a statement thereof.

CURING CLOVER HAY.

Taking everything into consideration, and after giving considerable thought and study to the subject, I have concluded that, all things considered, the best plan is to cure clover hay as rapidly as possible. If you chew a blossom you will find it quite sweet. It contains considerable sugar. And this sugar is soluble in water. And yet the heaviest rain falling continuously on a field of growing clover in full blossom will not wash out a particle of the sugar. The sugar is soluble, but the water cannot get at it. But cut down the clover and let it wilt and become partly dry, and the water will then wash out the sugar.

Experienced hay-makers know very well that a heavy rain or dew, falling on clover only just cut down, will not injure it. But rain or dew, falling on a field of partially-cured clover, does considerable damage. And the more the clover has been bruised in shaking it about, the greater will be the damage done by the rain. Bearing these facts in mind, when there is considerable clover to cut, I would start the machine about five o'clock in the afternoon, and cut as long as I could see; and unless there was a very heavy dew, I would start the machine soon after daylight in the morning, and keep on cutting until nine or ten o'clock. By this time the hay cut the night before will need moving. How best to do this is, with me, an open question. Some good farmers do it with a tedding machine. My own plan has been to take a self-acting steel rake, that can be easily raised and lowered rapidly, and pull the clover into small windrows, five or six feet apart. In an hour or so afterward, turn these windrows by hand, and if any of the clover is green and matted together, shake it out.

Treat the morning-cut clover in the same way. And if you have time, turn the night-clover again before dinner; but if not, turn it immediately after dinner. If it has been spread out much in turning, the horse steel rake can be used again to considerable advantage. I have a twelve-year-old boy that does this work with the rake to perfection. The rake is lifted by the wheel, and it is thrown in and out of gear by a lever. He moves this lever back and forth, and keeps the rake going up and down about every second. The object is not to rake the grass together, but to turn it. The oftener the green hay can be stirred the more rapidly it cures, and this is the main object of the first day's operations. About three o'clock, pull the hay together into windrows with a wooden revolving-rake, and put it into moderate-sized cocks. At the same time, let the boy with the steel-rake run it between the rows of cocks, and make every thing clean and snug. The next morning, if necessary, turn over the cocks, and spread out any part of the hay that is still green. And it may be necessary to turn the hay again in

an hour or so. By one o'clock the hay should be fit to draw in.

The objections to this method are (1), that it takes more labor, and (2) that opening the cocks, if done carelessly, may shake off the leaves of the clover, which, except the blossoms, are the best part of the hay. The advantage is simply a gain of time, and less risk from bad weather.—*J. Harris, in Am. Agriculturist.*

MANURES AND THEIR APPLICATION.

My experience is that manures containing straw, hay and the like should be ploughed under, but those containing little or no straw should be spread on. Coarse manures will rot much sooner if ploughed under, and they also serve to lighten the soil, and this is the one great want of those old farms which have been cultivated many years. Other manures should be applied on or near the surface, first, because if applied in any other way they lose much of their fertilizing properties by evaporation and by wash, while if applied on the surface in small quantities each year, the crops receive all or nearly all the benefit, and second, because the labor of application is much less. Viewing a fine farm burdened with a splendid crop of grass, I remarked to a friend on its fine appearance, that ten years before it was one of the poorest farms in the town, and that two things had made it what it now is. One was, the present owner had built a barn, and with it a large, fine cellar in which he kept his farm manures until he was ready to use them, thereby saving all the solid and liquids, and the other cause was, he applied the greater part of his manures on his grass as top dressing.

I once had a field of grass nearly run out and not able to plough it, spread on about three cords of manure to the acre for three years and now it is as fine a field of grass as one would wish to see.

I have found plaster one of the best fertilizers for grass land on clay loam, but not on sandy soil; and should like to hear the experience of those who have used it on such land.—*W. S. N., in Me. Farmer.*

SPRING CARE OF SHEEP AND LAMBS.

Though our sheep are wintered, the worst time is yet to follow; this is the changeable weather of the spring, the cold storms and the slushy, bad condition of the yard and the places the sheep inhabit. Unless the shed is well drained, or otherwise secured, there will be more or less water soaking the straw and manure. And once made wet in this way, it will be apt to be more or less damp till the end of the spring. We need not say that such is not the place for sheep. Keep the water out on the start by all means, and let there be elevation enough to keep a dry bottom.

Ewes now become heavy, and unless well kept during the winter, will be weak, easily hurt either by cattle or stronger sheep, or fright from dogs or rude boys. The way to avoid all this is to secure a place by themselves. Not only secure the ewes by themselves, with plenty of room if possible and good ventilation, but separate the weaker from the stronger.

When the lambs come weak, then is your time to bestir yourself; an hour at once is worth a day afterward, for the weak lamb, unless it get aid at once, will get weaker rapidly, unlike the strong lambs. See that they get milk, if possible, from the ewes; a little nourishment in the start is a great help, often the saving of the lamb. If chilled too much it must be taken to warmer quarters, where there will also be a chance to feed it. Let the milk (if cow's milk) be warm and a little diluted. Thus, in a few hours from the start, a lamb can be much helped and strengthened.

See to your sheep at night. Many flocks have been lessened in consequence of this neglect. A weak lamb will come in the night, cold and shivering, and in the morning be dead or beyond recovery. We cannot afford such a loss; a lamb is too valuable. The mothers also must have good care. Continue good hay to them. We prefer clover cut in due season and well cured. A little grain, almost of any kind, say a pint a day, is of material help. A few roots, for variety, are greatly relished. Do not fatten, but feed so as to strengthen and flesh up well, and prepare for the spring pasture. We should say summer pasture, for we are apt to let our sheep have the range of the fields too early, when the season is yet uncertain and damp, the ground soft and moist, and the feed too tender and innutritious for much benefit. The hay and the grain should not be cut off till pasture is fully established and feed abundant, and then not at once.

The thing is undeniable that good care and treatment, with food sufficient, will improve the wool and give more strength and growth to the lambs, preventing measurably the shedding of wool and other difficulties depending upon a reduced system. Remember a well conditioned sheep does not require more food than a poor one. And now, during this changeable weather, is the time to take care of the flocks.—*Utica Herald*.

DESERTED PLACES.

In the eastern part of the central portion of Windham county, Vt., about six miles west of the Connecticut river, and running nearly parallel with it, is a long range of hills, or rather one continuous hill, stretching from Dummerston to Rockingham, a distance of twelve or fifteen miles, and rising from the valley on either side from one mile to three. From the summit is an extensive view, reaching far into

New Hampshire on the east, and revealing for more than fifty miles on the west, the prominent peaks of the Green Mountain range. The hill attains its greatest height between the towns of Putney and Westminster on one side, and Brookline on the other. Scattered over it and along its declivities are the deserted homes of a former generation. In every direction we find the relics of an ancient household; a few decaying timbers, an old cellar and the crumbling walls of a massive stone chimney. The abandoned farms are turned into out pasture for sheep and fattening cattle. On some of them the houses are still standing, and the sheep lie on the stone hearth and the kitchen floor.

A former resident of Putney, an octogenarian and an old school teacher, says that when a young man, he taught a school in one of the districts on this hill, of seventy scholars. In this district there is now no schools, no scholars and only two houses inhabited. In another district adjoining, in which there is not a single house now standing, he taught a school of sixty scholars.

It is painful to think how many long days and years of labor have been expended on these deserted homes. Here are huge stone walls inclosing nearly all the fields, standing now after their weight has pressed the earth for more than half a century, as high as a man's shoulders. And like heavy old fences enclose the old roads that wind up the hill—old roads never to be traveled more. In winter, the piercing winds that sweep here with fury, pile the snow in those old tracks, and it lies undisturbed.

The lands that have been described are but a type of the condition to which many of the rough places of New England are approaching. Half the towns of Vermont have similar deserted tracts. The bleak hills are abandoned, and residences are sought in more accessible places in the valleys or near the villages. While many towns have a smaller population than in 1850, the villages in the same towns have often doubled or trebled in size since that period. A town in this county that has lost thirty per cent. of its population since 1870, has two considerable villages that have grown up while the town has been losing this per centage of its inhabitants. The gain in the State of 15,000 shown by the recent census, is nearly made by the towns of Rutland, Burlington and St. Albans. If we compute the gain in Brattleboro', St. Johnsbury, Bennington, and numerous small villages scattered through the State, it shows a loss in the agricultural districts. Estimating the increase in all the villages in the State at 45,000, and deducting 15,000, the gain in the whole State, a loss is shown in the remainder of the State of 30,000. This estimate of the loss, outside of the villages, is believed to be less than the facts will warrant.—*Cor. New England Homestead*.

CULTIVATION OF ONIONS.

When grown as a field-crop, the land should be level, comparatively free from stones, or other obstructions, deep and mellow. The onion will grow best on such a soil when well drained, either naturally or by artificial means. Fall ploughing, throwing the land into twelve-foot ridges, is advisable. In the spring an application of twenty to thirty two-horse loads of well-rotted yard or hog-pen manure, are spread broadcast and ploughed under. The ground is then ploughed, harrowed and sometimes levelled with a wooden roller before sowing the seed. An application of two or three hundred pounds of ground bones to the acre will benefit the crop.

The seed is sown in drills, one foot apart, either for field or garden, by a machine, using four pounds of fresh seed to an acre. To insure the seed being well covered, a light roller is drawn by hand over the ground, in the directions of the rows.

The early running of the hand-hoes between the rows, is the only way to do in growing onions for profit. If the weeds gain headway, the cultivation will cost ten times what it otherwise would. As soon as the rows are designated by the young plants, keep the scuffle and onion-hoes active until the tops are large enough to give shade. Weeds appearing in the lines of the rows must be removed, before they attain any size, by hand—the boy carrying a knife with a curved point, made for the purpose. The seed sown early in April, the crop will be ready to harvest in the latter part of August or the beginning of September. The onions are pulled out by hand, throwing three or four rows together and leaving them in this way for a few weeks, until they are dry enough to be stored—when they are gathered, carted and placed on a barn floor or loft until marketed. If kept over winter, they should be protected by a covering of straw or salt hay, before cold weather sets in. Onions keep better with the tops left on, therefore they are not trimmed till a few days before sending them to market.—*Quinn's Money in the Garden.*

A VALUABLE FERTILIZER UTILIZED.

Every farmer has the means at hand of manufacturing, at small cost, one of the most valuable fertilizers in use from the contents of

the privy, that are too often nearly lost on account of their offensiveness or want of proper knowledge. If the term, fertilizer, at the head of this article is suggestive of adulteration, all fears of this kind will vanish after a fair trial.

Early in Spring make a curb of proper size under cover, and place in the bottom a layer of dry muck six inches deep, or in its absence soil will do and may be advantageously taken from the marginal elevations of ploughed fields. Upon this place a layer of the said contents two inches deep, and thus build up the pile in alternate layers, using two or three times the quantity of muck, covering the whole with it to the depth of ten inches. Now save all the liquids from the sleeping apartments through the Summer and pour upon the top, adding more muck as may be necessary. In one year this will be fit for use, well decomposed, free from offensive odor and may be handled as well as so much earth. I have used this compost in top dressing grass lands with marked results. Last Spring a piece thus treated was far ahead of the rest and had to be cut ten days in advance. A small quantity in corn hills will push the young plants forward, give them a rich, dark green color and a stamina they will not forget during the season.—*H. Farmer.*

PREPARING CORN GROUND.—A correspondent of the *Ohio Farmer* says, always, if possible, plough the ground just before planting. If sod, never until the grass is well started. Then the grass will furnish food for worms, and also commence heating or rotting at just the right time to make the young corn grow rapidly. How to plough:—If your land lies high and dry, and you wish to plant in hills, and rows both ways, commence in the centre of the field and back furrow until finished; thus you avoid tramping upon any of the ploughed ground. If low ground, plough in beds, north and south, wide enough for five or seven rows of corn, one row on the ridge, two or three on each side dropping the corn at the edge of every fourth furrow in drills, with plenty of seed, then harrow the ground thoroughly; as soon as the corn is up harrow again. Then in a few days cultivate and thin out to suit. I plough sward land from five to six inches deep; old land seven to eight inches.



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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

JULY, 1871..

Hark! where the sweeping scythe now rips along;
Each sturdy mower, envious and strong,
Bends o'er his work and every sinew tries,
Prostrates the waving treasure at his feet.
But spares the rising clover short and sweet,
Come, health, come Jollity, light-footed, come!
Here hold your revels, and make this your home.

Bloomfield's Farmer's Boy.



JULY is the great hay-harvest month; and if not the richest, it is certainly one of the most important of our New England harvests. In this month the energies of the farmer are fully taxed. Care must still be extended to the corn and potato crops. Weeds will assume too much prominence if the cultivator

and hoe are not frequently among them. The field turnip, beet and mangel wurzel crops will demand attention to thinning, weeding, and repeated stirring of the ground, in order to secure a rapid and lusty growth. The garden, also, which was prepared and planted

with care, will claim daily attention if only a brief hour is devoted to it. If drought prevails, weeds are so much more hardy than most of our cultivated crops that they will flourish and crowd out their more delicate neighbors. If the season be a wet one, then weeds must be displaced in order to let in sun and air to the plants we are rearing.

Some of the early grains will ripen, and must receive their share of attention.

All these varied cares will rest upon the farmer during this month, in addition to the great leading interest, that of securing the hay crop in perfect condition.

The poetry which we have quoted at the head of this article was written long before machines for cutting grass by horse-power were known. Then six or eight men were required to cut as much grass in a day, as may be done by a single man and a pair of horses now. Besides, in using the machine, the grass would be spread, and thus save the labor of one or two persons more. And yet, here and there a man still clings to the old hand scythe,

"Bends o'er his work and every sinew tries."

The average crop of hay in New England is probably not more than one ton to the acre, and the average amount of land gone over by the hand scythe not more than one acre per day, of ten hours. If, therefore, while the farmer is going over his fields and cutting and curing the scanty crop of much less than

one ton to the acre, he will reflect upon the great difference in the profits of his labor which would result to him between fifteen hundred pounds and thirty hundred pounds of hay, he would undoubtedly resolve that he would, in the future, go over less land, and yet secure a larger amount of hay per acre.

The returns of the last census show the hay crop to have been about fourteen millions of tons, and at ten dollars a ton to give an aggregate of about one hundred and forty millions of dollars? This is substantial national wealth, something that gives the nation permanence and power. Unlike costly edifices, or anything else that costs much labor and is not productive, this crop, with our grains and other products of the farm, form the base of national progress and prosperity. The average per acre, might well be increased to one ton and a half, which would add forty millions annually to the wealth of the nation. Some of our best farms do this,—nearly all might.

Exacting as the labor of JULY is, it is still a month of general health and good feeling among farmers. There is something inspiring in the pleasant labor, and in seeing the bountiful crops so rapidly filling the empty barns with the fragrant products which are to sustain our domestic animals—and man, too, indirectly—when frozen fields and pinching cold compel them to rely upon man for shelter and subsistence.

The good old BLOOMFIELD, when telling his stories to the *Farmer's Boy*, felt the inspiration of the season which we have suggested, and invoked Health and Joy to come and “hold their revels and make this month their home.”

And so, in the right sense, should it be to all, but especially so to the farmer that is full of life and joyous feeling. In the midst of all the garniture which the earth has put on, loading the air with rich perfume, and promising an abundance of food for man and beast, why should not his heart beat with gratitude and delight at the lavish fulness around him, and the great promise of future harvests! Let us, then, sing with the old poet,—

“Come to the scented clover fields,
At early dawn away;
The earth her generous bounty yields—
To the clover fields away;
The sun is painting now the hills
With its genial golden ray.
And the music of the singing rills
Is calling us away.”

FARM WORK FOR JULY.

A great variety of work must be done in this month in order to secure a profit on what has already been done. It is poor policy to lay out more work than can be done seasonably and well. If the quantity of manure on hand will dress two or three acres more than has usually been under the hoe, that will require an extra amount of labor in July. It would be better to let the manure lie over, than to neglect the usual crops in order to get over the extra amount of land thus put under cultivation.

If we have reared trees, fruit or shade, it is poor economy to allow caterpillars or canker worms to destroy them. It costs time and money to set out and rear currant bushes, to start cabbage and tomato plants, to prepare the garden soil and sow a variety of seeds to bring vegetables for the kitchen table,—and their failure from after neglect would be a waste, not only of this cost, but of the money necessary to purchase them from some other persons, perhaps in a poor condition. Viewed in this light, all will see that it is strict economy to take good care of whatever has been started, whether it be the grass, corn and potato crops, or the wholesome and almost indispensable fruits and vegetables, that ought to make up a considerable portion of our diet during the hot weather.

If from the force of circumstances the farm work is somewhat behind, it would be better economy to hire a few days' labor, than to allow the crops to suffer. A rank growth of weeds in the garden, or among the field crops, would soon absorb a considerable portion of their profit, beside filling the soil with seeds for future crops.

The hoeing is quite often neglected in order to strike into haying. The weeds are left, perhaps, to be cut up in cloudy weather, which may be indefinitely postponed. Then a clear day is as much better for hoeing as it is for haying. Weeds die quickly when stretched out in a hot sun. And that is not all. The ground being stirred to destroy the weeds, is put into condition to receive important benefits from the atmosphere, rains, and dews. The roots of the plants are, therefore, not only supplied with the nutriment they need, but they have around them a mellow soil in which to travel after it.

A quite common error is, to leave plants

too near together. They ought to be thinned out when small, but if that has been neglected, it is best to take them out later. We made an experiment with mangel wurzels, and it was estimated that double the number of pounds of roots grew where the plants stood twelve inches apart in the row, than where they stood ranging from four to nine inches apart. When the thinning is properly done, the hoeing can be accomplished in much less time than among thick-standing plants.

Another important item of work comes into this month,—that of gathering the early grain harvest. When this is fit to be cut,—which is when just leaving the milky state,—no delay should be suffered. Any delay will be attended with loss. If the weather is fair, the grain may ripen too far, and shell out in the harvesting. If the weather is cloudy and hot, there will be danger of rust, and birds prey upon the grain. If cut at the time we have suggested, the grain will be fairer and heavier, and the straw more valuable. These are facts which have been established by the most thorough experiments frequently made.

As the hot and dry weather reduces feed in the pastures, all the stock should be supplied with succulent food of some kind. If that is not at hand, then feed them with a little hay and grain before turned to pasture in the morning. In this way the cows will continue their usual flow of milk, and the young cattle and oxen keep in flesh and continue to grow. If these are checked, it will be in keeping with allowing weeds to grow among the crops. When the milk is once reduced, it is difficult to bring it up to the former standard again, even with high feeding. The animal functions have gone down as well as the milk, and must be brought up again before there will be an increase of the milk. The same operation takes place in the dry stock. It is hard even for young stock to recover from a stunt or stoppage of growth.

Stimulated by the pressing cares of July, the enterprising farmer is apt to spend too many hours in hard exacting labor. Cases have come to our knowledge where painful maladies have been contracted, and even death ensued, from a want of proper care. Work steadily, but moderately. Eat sparingly at night. Rinse the mouth and wash the wrists and hands before drinking much cold water.

BREAKING COLTS.

It requires patience and firmness to break in and tame the colt. Kindness has been found by experience to be more effectual than brute force to secure the confidence and subdue the untutored colt. It is the natural consequence of the legitimate control of the human mind over the brute instincts—the triumph of intellect over the animal passions. In a combat of physical force, the horse is stronger than man, and would be sure to triumph; but in a contest of mind he is easily subdued. It is this force of mind that gives man control over the horse and the whole animal kingdom.

Mind is omnipotent over the brute. Animal instincts recognize their dependence. Sympathy is not dumb. It speaks in the language of mutual confidence. We have only to refer to the modern art of training colts to verify the magic of mind over brute passions. For instance, the trainer often blindfolds the wild colt with heavy blankets, leaves him firmly fastened to a post, tormented in darkness, till he sweats profusely from terror-stricken excitement. The breaker at the appointed time quietly relieves him, and upon the gentle law of kindness brings him out of darkness into light. The terror-stricken colt instantly recognizes him as his deliverer from persecution, and follows him with the obedience and attachment of the dog. The trainer now becomes master of the situation, and can command him at all times.

The first proceeding in breaking the colt is to halter-break and bit him, to soften the mouth and supple the neck, so that he will carry his head in lofty style, to command attention and follow the line in a perfect curve with the body in motion. The head should not be left strained up long at one time before it is let down to rest. It prevents calloused jaws and leaves a more sensitive mouth. Much is accomplished in biting by suppling the neck with the hand. The head should be raised by hand exercise up and down, right and left, till the head can be placed in a bold position, and the under jaw will open and shut readily as it turns on its hinges for food. The body can be taught to move in straight or curved lines, go forward or back, and yield implicit obedience to the hand in every shape and form.

This process tames and subdues the colt, secures confidence in his master, and redeems him from fear. He can be put into harness and driven without a load till he will stop and go forward at the word of command, and turn to the right or left at the slightest indication of the hand. He soon becomes familiar with the harness, and the language of the trainer, and will be as gentle as a lamb. He will obey the commands of the driver when hitched to the wagon, the same as he has been taught to obey them in harness. When hitched to heavy loads, he should not be over-

weighted, nor suffered to draw more than two or three times at what he cannot move. Throw off the load and relieve him. It will encourage and make him true as steel.

If the green colt should contract the habit of pulling at the halter, he can be broken of the vicious habit by extending the tying rope to the halter, through a ring in the manger, and attaching the same to his hind foot. When the colt settles back to pull, the great strain comes upon the leg, and he will soon give up the practice of attempting to pull at the halter.

The most dangerous of all habits contracted by the horse is the pernicious practice of kicking in the harness. Should the wild, untutored colt turn out a kicker, he will have to be subdued by kicking straps or gearing, to guard against danger to life and limb from this vicious habit.

Several kicking straps have been invented that are simple and effective. One of the safe-guards consists of a rope attached to the hocks, playing through a pulley or ring, in the belly-girt, to correspond with the motion of each hind leg in the act of walking or trotting. It is utterly impossible for the horse to kick, or to move but one hind leg at the same time, which puts a veto upon running away, and confines the subject to a walk or trot. It will prove a sovereign remedy for kicking in harness.

The horse can be reclaimed from many vicious habits by the law of kindness. When George M. Patchen was in the zenith of his glory, and matched with the queen of trotters, Flora Temple, they chanced to change grooms. This was disgusting to the old hero of stallions. He fought the new-comer till they were forced to restore his old groom. When his old, cherished groom, who had slept in the stable for years, returned, the horse resumed his former quietude, and trotted that season some of his most celebrated races.—*Cor. West Rural.*

GALLED SHOULDERS ON HORSES.

There are few things more painful to look at than a poor horse wincing and baulking at every root which comes against the plough, while the ploughman is slashing him with the line and goading him into a passion, for his restiveness under the torture of a sore shoulder.

In using a new collar, it is best always to wet it thoroughly before you put it on the animal. A few hours' use will give it a set to the peculiar formation of the shoulder, which it will always keep. The same collar should always be used for the same horse. There is no worse practice than shifting gear upon a plantation. Every horse should have his own gear, and it should never be used for another, and every laborer should be held responsible

for its condition. We prefer the common bark or shuck collar to any other kind.

If the shoulder should become galled, a pad of cotton may be put on so as to keep the pressure off the sore. A little neat's-foot oil applied every day will heal it up. It is best, however, when the first appearance of a bruise is noted, to apply spirits of turpentine. But it is better still, to prevent such mischief. We always keep at the stable a bottle of vinegar with a few spoonfuls of alum dissolved in it, and require the shoulders to be washed with it when the horse comes in at noon and night. If it be inconvenient to use this solution, a strong decoction of oak bark will answer a very good purpose. This astringent preparation toughens the shoulder and prevents the galling, and if a little oil should be applied when the galled part first appears, the animal can be worked and the sore healed perfectly in a little while.—*Rural Carolinian.*

WINTER OATS IN ILLINOIS.—I have a piece of winter oats, one and a half acres, sown last August, that commenced to head April 23d. Some of the stalks to-day (May 15th) measured one and one-half inches in circumference, three feet and eight inches in height, and still growing, with blades one and three-eighths inches in width. Many of the heads measure fifteen to sixteen inches in length, and are not yet fully developed. One stool counted one hundred and ten stalks, many of them having fifty and sixty. It is grown on ordinary compact, clay soil, rather wet, without fertilizers of any kind, nor has the land been manured during thirty years' cultivation—only by pasturing or laying out to the commons. The extreme cold weather this winter—thermometer 13° below zero—did not injure it in the least. Spring oats, sown March 22d on adjoining land, is about four inches high, and suffering much from the drought. I am using the winter oats for early feed.—*A. D., Du Quoin, Ill., in Rural New Yorker.*

DRESSING MUTTON.—Everybody, says the *World*, knows that the oil which lubricates wool is disagreeable to both taste and smell. In slitting and taking off the pelt, it is difficult to prevent a contact of the wool with the flesh along the lines where the skin is first severed, preparatory to being stripped off. The accomplished butcher cannot wholly prevent this contact, and he therefore very thoroughly scrubs the parts exposed with saleratus, dissolved in cold water, which wholly removes the disagreeable odor and flavor. The farmers, for a long time, were not aware of the necessity of such purgation, which should be applied at once, as soon as the pelt, by the greatest activity, can be removed. This done, the meat is as free from the taint of wool-oil as the meat of any other animal.

ON PRUNING APPLE TREES.



old habits—and especially bad ones—cling to people with wonderful tenacity. So do old practices. Some persons cut their grass to this day with a hand scythe, who can well afford to own

[a mowing machine.

Many farmers, keeping a large stock of cattle and horses, did this for several years after mowing machines were well tested, and boasted of the advantages of the hand scythe over the mower in point of economy!

But the most persistent and ruinous practice still prevails of *pruning apple trees in the spring*. The change, however, in this respect, has been very great, as not more than one-third as many persons do it now as formerly did. Why should any do it? The charitable answer would be, perhaps, because they are not aware of the injury caused in so doing. If this be so, it shows the importance of investigating every branch of farm labor for ourselves, instead of blindly following the practices of others.

A good deal has been said and written as to the *best* time to prune apple trees. Saying and writing, however, do not always convince, and the only thing that will is a careful study into the nature and habits of the tree, and actual experiments upon it. One of the largest orchardists in this region habitually pruned his trees in the spring; beginning in March and cutting until the work was finished. But he frequently complained of the condition of his trees. The land was occasionally cultivated and enriched, and care used in keeping off insects and in gathering the fruit. All this he did, and pruned in the spring, as his father and grandfather had done before him.

At length, upon complaining to a visitor who was passing through one of his orchards

with him, and pointing out to him the discoloration of the bark, and decayed portions of many trees that ought to have been in the very prime of their vigor, the visitor replied that his theory was that spring pruning was the cause. The proprietor asked for the reasons of the visitor's theory. They are simply these, said the visitor:—"In the month of March, April and May, while the tree is starting its buds, blossoms and leaves into a vigorous growth, the sap-vessels are filled with sap on its way to the branches and twigs, to sustain this work. In the midst of this, you cut off the sap-vessels, and the sap, instead of mounting to the branches, oozes from the wounds made, and trickles down the outside bark of the tree."

Here, then, are two causes of injuring the tree. First, in weakening its power to perfect its blossoms, leaves and fruit, and secondly, in the effect of the wasted sap upon the health of the tree. The owner thought the reasons sound, put them into practice, and never prunes now in the spring.

It must have been noticed, we think, by every person who has passed through an orchard, that the bark on a portion of some of the trees has turned black. If he has cut into these places, he has found, also, that the discolored bark is dead through its entire thickness. In some cases it has become dry, and may be cleaved off from the tree.

When a tree is found affected in this way, the injury may always be traced to a wound inflicted upon it. On looking up, a long line of discolored bark may be seen, and sometimes extending from the place cut, several feet to the ground. Running against a tree with the plough in the spring, or striking it with the hub of the cart wheel, at that season, will have a similar effect, but will not prove so injurious as when the sap-vessels are cut apart.

The sap that escapes through a wound in an apple tree, seems to undergo a remarkable change on coming to the air. It soon becomes sharp, bitter, quite offensive to the taste, and in this condition proves fatal to many trees.

The best authorities in this country and in Europe agree in condemning the practice of pruning apple trees when the sap is in active motion. Most of the agricultural papers take

the same ground, but still the pernicious practice is continued by some persons.

A perfectly safe rule to be followed, is to prune when the "sap will gum up," as it is called. This takes place when the sap has visited the branches, passed through their laboratory, and is returning down the tree between the bark and the sap-wood, in a condition entirely different from what it was when it ascended to the tree. It comes down thickened, and of a sticky nature, which causes it to adhere to the saw so strongly as to make it necessary to wash it occasionally while using it.

By the middle of June, the sap in this form commences coming down and increases the diameter of the branches and trunk of the tree. It is safe, therefore, to prune from the middle of June to the middle of July. At the end of this time, a *second* growth commences, and pruning should be suspended until the leaves have fallen; after which it may be resumed, and continued through October and November with safety. This second growth may be distinctly seen all through the autumn, as the color of the leaves is a much lighter green than that of the first growth.

Where crops cover the ground, they may be injured by the falling limbs from the trees and the necessary walking about under them. Immediately after the falling of the leaf, therefore, is, upon the whole, the best time to prune. There is usually less hurry than in June, the weather is favorable, and no crops are liable to be injured by the work. The wounds contract and harden, so that the sap will not pass through them when it flows in the spring, and the wound is in a favorable condition for the healing process to be carried on by the descending, elaborated sap. The healing process is more rapid in June pruning, because the thickened sap returns so much sooner than it does after fall pruning. All wounds should be covered. Any paint will do, applied only to the wound, but gun shellac dissolved in alcohol is best.

For the New England Farmer.

SANDWICH ISLAND FARMING.

WAILUKU, MAUI, HAW. ISLES, April 11, 1871.

How many years I have been a subscriber for the NEW ENGLAND FARMER I cannot now say. It brings a home-feeling to me

as few things do in this far-off corner of the world, where I have been ever since April, 1837, with the exception of a short visit home and one short stay in San Francisco.

It has sometimes occurred to me that possibly I might state a fact or two which would be useful to the readers of the FARMER, inasmuch as I was bred a farmer on the soil of the good old Bay State, and have all my life felt an interest in agriculture. But then I reflect that there have been immeasurable advances in agriculture, as well as other things, since I left the country; and here I have been cut off from those influences which give such a stimulus to mental effort—in a debilitating climate where our brains get roasted and our bile far too much developed.

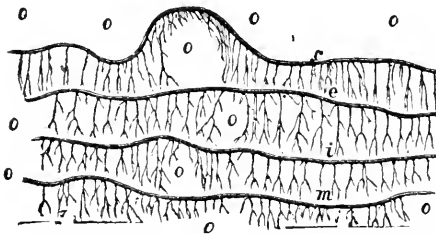
Then again, tropical culture is so unlike that of temperate zones that it seems to have nothing in common with it except main principles; which are everywhere the same. These considerations have hitherto prevented my writing altogether. But if we cannot have much in common with you, we still have a chance for observing some of the operations of nature which you, in your northern latitude, cannot enjoy. And although the main principles are as familiar to you as a, b, c, I crave pardon for giving an illustration or two of those principles which our stand-point enables us to observe.

Most of your readers are doubtless aware that the windward or northeast side of the Islands are rainy and can grow crops without irrigation. So also at two or three thousand feet elevation on the leeward sides. But near the shore of the southwest sides, and other places under their influence, plants are dependent almost entirely on the mountain streams for water; and where these streams are wanting, as for instance on Hawaii, there is no chance for crops near the lee shore, except occasional winter rains may bring them forward. It follows that irrigation is a main dependence in such situations where streams exist, and that water privileges are as valuable as land.

Long use has made us as familiar with irrigation as hoeing is to you; though we may not have learned all that may be learned about it. Some crops are much heavier where irrigated than where they depend on the rains. One reason undoubtedly is that they have both sun and water at the same time, while in rainy districts the sun is covered and the growth is stopped while the water is applied—one of the grand compensations which we often see in nature. I am aware that my good friends in the rainy districts may wince a little at this—if they see it—but while four or five tons of sugar per acre is a common yield with us at Wailuku and vicinity, we do not fear comparisons, and must maintain our point. But we will admit that the cost of irrigation very much increases the outgo on a crop. The first thing to be done is to cut a

ditch to lead the water from the main stream—itsself a mountain torrent rushing down its rocky bed in the bottom of a deep valley or gulch.

The head, or dam, built up of boulders and stopped with rubbish, is often swept away by freshets and must be rebuilt before any more water can be had. This water course is led along the upper side of the field—all the land descends from the centre of the island—small branches are led from it at intervals of 40 to 100 feet or more across the fields in a descending direction, and from there again the water is led into shallow trenches which lie nearly on a level across the "lands," usually from four to six or eight feet apart into which the whole field is divided.



NOTE.—The above illustration of a plan for irrigation somewhat different from that described by our correspondent, is adapted to very steep declivities, which are liable to being washed, and where it would be dangerous to run branches down the hill at intervals of forty to one hundred feet distant, and take the water from them. Here the supply drain *c* is led along the declivity preserving only a slight fall. Very small outlets are made at but little distance apart, and the waste water is collected and again distributed, by the lower drains *e, i, m*. The uneven surface of the declivity is indicated by *o*.—ED.

In these trenches or on their sides, the cane is planted at various distances in the row—usually from one to three feet apart. The trenches are filled with water by opening and shutting them in succession with a sod or earth. The water is very soon absorbed by the earth and soaks under the ridges between the rows; but not coming to the surface of the ridges or banks, the weeds do not start there and the labor of weeding is materially abridged during the dry season, which is about eight months in the year. One hand will water well from one to three acres a day.

Young cane is watered about once a week, but after it is well established and will bear a more copious application, once in two weeks is sufficient. In the winter it is not often necessary to water at all.

There is one difficulty in watering some soils, viz: it causes them to become compact and impervious to the air, and so checks vegetation. Frequent stirring of the surface is necessary to prevent this, even though weeding may not be necessary. Long continued run-

ning of the water in one place is not admissible—unless a very small stream is allowed to trickle through a desperately dry spot for twelve hours or so.

Of the cultivation of Kalo—the great staple food of the Hawaiian race, and other plants peculiar to tropical culture, I will not now speak as I have already drawn this communication out too long. Yours truly,

EDWARD BAILEY.

For the New England Farmer.

TIME FOR CUTTING AND CURING HAY.

On looking over the articles published in the FARMER during the *past* year on this subject, I was struck (as I think others must have been) with the diversity of views and practices reported and recommended. These views and practices are very conflicting. It would seem as if the true method of curing hay was as far from being demonstrated as ever. Some are even now affirming that grass should be fully ripe, or the seed formed, before being cut for hay; others would cut when in full bloom, and others affirm that it should be cut even previous to blooming, if we would secure the greatest value of the hay crop.

None the less varied are the methods contended for or condemned in curing hay. One cuts when the grass is free from wet, wilts a *little* and mows away in a tight barn, and has excellent hay; another says he tried that method and *lost* his hay, it was worthless. Another mows in the afternoon, turns next day when the dew is off and gets it in during the afternoon. Another correspondent cannot carry out such a programme; it requires too much *help*. Another thinks there is no real loss in exposing hay to the sun two or three days, while others are emphatic as to there being great loss from such sunning, and recommends its being put into cock when dry, kept a day or two, then opened and sunned previous to housing. We might go on multiplying diverse theories and practices, and have to come back at last to the question, When is the best time to cut grass, and what the proper method of curing it?

Let us look at what we may suppose to be some of the reasons why such diverse views prevail, and such diverging results are recorded.

Now as to the proper time for cutting grass for hay. The most careful experiments both in our country and in Europe seem to have demonstrated the fact, so far as evidence can demonstrate anything of this character, that grass cut when dry and in full bloom is, all things considered, in the best possible condition to make the best and most profitable hay. Circumstances may vary this general rule in an appreciable degree, but a doubt still lingers whether the variation contended for is really

admissible. It arises from the practice of some who keep cows for milk exclusively, and hence want the nearest possible approach to succulent food to secure the greatest quantity of milk. Experiments serve to show that grass cut before it blossoms will give the desired result; at the same time it is not clear that the loss in the quantity of hay obtained, and its unfitness for working animals, does not more than counterbalance the gain in the quantity of milk.

As to the practice of allowing grass to form the seed, it is needless to say much. The advocates for it are fast disappearing, and the practice will soon be among the things that were. There is no doubt that such hay (if it is proper to call it hay) is, as is claimed, less liable to loosen the bowels of working animals in warm weather than early cut grass, but the same may be said of dry brush and many other things.

After all, the proper curing of hay is where the greatest interest centres. A lack of judgment or want of thought often results in serious loss to hay makers. When I see statements made by reliable men of their practice in curing hay, each claiming to carry out the same details, and one reporting a satisfactory result, and another the reverse, I am satisfied there must have been some radical difference in the conditions under which these varying results were obtained. What these differing circumstances were, becomes an important question, especially to the man who failed to make good hay. When a person says he gets the best of hay from grass cut in full bloom, cured and housed the same day, I believe him; for I have done the same, and am knowing to its having been done by many others. A gentleman in New Bedford has practiced this method for more than a score of years with grass yielding over two tons per acre, without a single failure, and you, Messrs. Editors, testify to the same results as coming within your knowledge, in *remarks* appended to an article in last year's monthly, page 405.

It is a well known fact that rain (especially if it falls copiously) deprives standing grass of much of its good qualities, for a short time after; that is, grass cut immediately after a rain will not make as good and sweet hay as it would previous to the rain, or as it does after a day's bright sun. To this cause is to be attributed the poorer quality of hay in wet seasons.

The wet condition of the soil operates disadvantageously in curing hay, by reason of the vapors that arise on the sun's shining after a fall of rain.

Admitting these statements, have we not a clue to the reason why some fail of saving hay in the manner referred to? One person goes into his field, *thinks* his grass dry, and cuts it; another waits until he is certain it is so, and gets good hay from it. I think it is just at

this point that the results diverge, and one has damaged, and the other good sweet hay.

If labor was not so costly, this question of curing hay would be shorn of much of its importance. But so long as farmers have to pay such large wages, it becomes them, if they hope to succeed in their calling, to seek for, and practice the least costly methods of doing their work that are consistent with its being well done.

I am quite sure it would be profitable to keep (if we have it) each season's straw and swale hay over to the next season, and mix it through the hay crop in sufficient quantities to preserve it without wilting it much, if any. I have saved *unwilted* clover by putting an equal quantity of oat straw with it. The cattle eat both greedily. I have also used rye straw that was much broken by the thrasher with like satisfactory results.

The truth is, farmers as a class are not as persistent in their investigations, nor as persevering in initiating new modes of doing their work, as are people in most other callings. They either discard entirely new methods, or if they attempt to practice them, too often fail to comply with all the conditions necessary for success, and decide prematurely against them.

March 10, 1871.

K. O.

For the New England Farmer.

DRAINING ALWAYS BENEFICIAL.

MR. EDITOR:—I read with much satisfaction, in your issue of May 20th, the communication of Royal Smith of Millington, on the subject of "Drainage of Wet and Dry Land." Its intelligence and temper are equally admirable; and I am inclined to feel not a little gratification that I have been instrumental in eliciting such valuable practical information, as the letter alluded to contains. It is by the friction of minds such as that of Mr. Smith, that the genuine light of information is produced.

Your accomplished correspondent takes exception to the breadth of my doctrine of the efficacy of drainage, and pleasantly expresses doubt that the application of thorough drainage to what may be generally described as a dry, gritty soil, (as I understand it,) would be of any possible advantage. If not so, healthy experience and carefully observed results are not to be believed; otherwise the lapse of thirty years has so changed the effects of circumstances, long time ago recognized as very decided, as to render them utterly effete at the present day.

Thorough drainage will deepen and consolidate a loose or friable soil, and will deepen and render porous an indurated or heavy one. In either case increased temperature is an accompanying result; also increased depth of soil, furnishing plants with those conditions their healthy growth demands.

A soil saturated with water is semi-inert,

always. There can be no controversy concerning the propriety of draining in such instance.

A soil liable to injury from the slightest accession of drought is semi-effete; thorough drainage will improve it, profitably. And this is the point where my good friend Royal Smith's imputed controversy with me begins. There are very few light, arable soils, *undrained*, into which any farmer would be willing—even had he the power—to run a furrow of twelve inches in depth. By doing so he would cover up the active soil, and bring to the surface a barren subsoil that would in no way favor the chances of a good crop. Even should his seed survive and grow, it would do so under the most unfavorable condition; for it could not send its roots lower than the original depth of the furrow, where they would be drowned or starved according as the weather might be wet or dry. Cereals will penetrate the soil thirty inches in search of food and water where nature supplies them with the means. They have been known—as I have already said—to go down, perpendicularly, double that distance. And is it not the duty of the farmer to supply all those conditions to his crops that their healthy nature demands?

I am old enough to remember the advent of modern draining, and have heard the same objection implied by your able correspondent asserted with a positiveness utterly foreign to Mr. Smith's nature; but I was permitted to see many, very many, confutations of the theory—that dry land needed no draining—in the pleasing shapes of largely increased crops; in one particular instance mentioned in my old note-book, of one-third the second year after the drains had been made.

Had I present time, and you, Mr. Editor, room to spare, I could demonstrate, satisfactorily, I believe, the fact that dry lands, for crop cultivation, demand draining, and that the profit would pay for more than the labor and outlay. But these proofs are designed to constitute part of the details of a series of papers, I intend hereafter to inflict upon your good nature and suffrage.

But let me mention a very extreme instance of experiment, which I will refer to my friend, Mr. Smith's consideration as being somewhat illustrative of the power and effect of drainage. Forty years ago, when my farming was not done at the fireside, and when draining was in its modern infancy, and infested with any number of the crudest theories in its favor and in its opposition, a gentleman who was land steward to the Duke of Portland, on one of his estates in Ayrshire, Scotland, and a great enthusiast on the thorough draining side of the question, took it into his head to level and drain a sandy spot about three-quarters of an acre in extent, on the verge of a rabbit warren. There was hardly a sign of vegeta-

tion of some kind of sea-grass rose like a bayonet point, and was almost as sharp. The spot was fenced in to keep the sand from blowing over it, and parallel trenches, five feet deep, were dug and filled up two feet or more with brush wood. This was in the fall. Next spring the lot was harrowed and sown down with rape. This gave but a very feeble crop, which was ploughed in and vetches sown. This crop made also a very slim show, and was ploughed down in the late fall. The same processes were followed the second year, and the third the lot was laid down to rye and grass. Ten years after it was drained, being in the neighborhood, I thought of the experiment and visited the spot. It was at that time used as a bowling green; and as it had been much trodden upon, and partially mowed, I could form no adequate idea of its fertility. But one of the laborers took out sods from the surface at five different points, which showed an active soil varying from five to eight inches! It never had been manured or cultivated only as I have described. The gentleman who made the experiment told me that for rye and carrot cultivation the many thousand acres of barren sand along the coast, on which it lay could be profitably improved in the same way; and that in our opinion, there was no kind of land, situated so that it could be cultivated, that could not be profitably improved by drainage. I believed him then—and I do so now. A FIRESIDE FARMER.

MAKING MANURE OF MUCK.

A farmer in New Jersey sent a letter to J. Harris, Esq., of Rochester, N. Y. asking how to use muck to the best advantage, when to dig it, and what minerals, &c., to mix with it to remove the sourness and make it good manure, and enclosed \$10 to pay for a reply. As Mr. H. is an editor, he returns the money, and prints the following reply, which for aught we know is just as valuable to the inquirer, and to thousands of other readers, as it would have been if each one had received written directions, and paid his ten dollars for the advice. After admitting that he had not used as much muck in the past as he intends to in the future, he says in the *American Agriculturist*:

“An average sample of air dried peat contains more than twice as much nitrogen as stable manure; and there can be no doubt of its value. The trouble is, that the plant food it contains is in a comparatively insoluble condition. It is ‘sour,’ but merely neutralizing the acids is not enough. The aim should be to decompose it by fermentation. Anything that will accomplish this will render the plant-food available. The first thing is to get rid of the water. Throw up the muck in June or

July, and turn it during the hot weather, in July or August. I would then put about a bushel of lime to twenty or twenty-five bushels of muck; and, in turning it over to mix the lime with it, would aim to make the heap as compact as possible; and before the fall rains set in, I would cover it with something to throw off the water. In the winter, draw this prepared muck to the yard, and mix it with the manure—say one load of muck to one load of manure. In my case, I should use some of the earliest-made manure and muck for root crops in May or June; and to get it in good condition, the heap should be turned, if possible, during the winter, and again in the spring; and if bone-dust, or blood, or woollen waste, or anything that would favor rapid decomposition, could be obtained, I would mix it with the heap a month or six weeks before using—the earlier the better.”

“But,” remarks the Deacon, “I thought lime would set free the ammonia. I know lime and ashes are good to mix with the muck when about to apply it directly to the land, but I never heard of mixing lime with muck that was to be afterwards mixed with stable manure.”

Exactly. That is precisely where my plan differs from that generally recommended. I have no fear of the ammonia escaping from the heap. The more ammonia we can set free in the heap the better, provided it does not escape; and if muck enough is used, there is no sort of danger.

In my case, the bulk of the manure would be kept in the heap during the summer, and be drawn out on to the grass-land in the fall, to be ploughed under for corn or potatoes the next spring. A much larger proportion of muck could be used with the manure in this case.

MILKING---CARE OF COWS' TEATS.

I began to milk when I was only eight years old, which is 64 years ago, and there has not been more than two months in all of the sixty-four years but what I have every day had something to do with cows. And perhaps I know as much about cows as any other boy that is no older than I am.

I have had some experience with cows' cracked teats. At night I wash the teats with water (prefer to have it warm,) then with a brush, such as painters have, and a tin basin, have some pure hog's lard melted, and give the cracks a good greasing. Then I feed the cows with something that they like to eat, which diverts their attention. I commence stripping down the teats with my thumb and finger; I do not clasp my whole hand harshly round the teat, for by so doing the cracks will open and hurt the cow. If the cow is inclined to kick, do not whip her. I have long since found it better to pat them on their shoulders and card their cheeks, speaking gently to them, than to

use all the goadsticks one can get hold of. It takes some longer to milk in this way, as I milk in a long quart milk measure, with one hand, going round and taking only a quart at a time out of each teat. When I get all the milk, I strip into one of my hands and apply it to the teats, leaving them quite soft and moist. Then I have a two-quart tin wash dish with a handle, with about a pint of flour in it, and press the dish up to the bag with the teats enclosed; shake the dish, and the flour will adhere to the cracks.

I have been told that those who tend grist-mills do not have their hands crack. A wash made of milk and molasses of equal parts is good to keep the teats moist while milking, and to be applied before the dish of flour is applied. To prevent the teats from cracking, I grease the inside of the cow's legs with lard where they rub against the teats when the cow is travelling. In using these prescriptions it don't affect the taste of milk or butter, as oil and some other ingredients used by some people do. The flour acts as a kind of paste on the cow's teats.

Now there is a good deal of fussing with cows, but what other animal can we any better afford to fuss over than the cow? We are deriving some benefit from the cow every day in the year on the farm. When she does not give milk she is breeding, and her manure is on the farm and not wasted on the highways as is that of oxen and horses.—*Daniel Foster, Augusta, in Maine Farmer.*

SPLINT IN HORSES.—A few years ago I bought a valuable horse that had a splint on each fore leg, believing that they could be removed. I was successful in the following treatment:—I took the Volatile Liniment of the U. S. Dispensary, to which was added one drachm of oil of origanum; this was applied thoroughly twice a day, and followed by rubbing the splint with a round pine or bass wood stick, as hard as could be done without abrading the skin. This was continued several weeks, when we had the satisfaction of seeing the splints grow beautifully less and finally disappear entirely. In this case the splints had been on about a year, and had become quite large. I believe this treatment will cure most cases if continued a sufficient length of time.—*Dr. A. N. Braman, Brockport, N. Y., in Rural New Yorker.*

A BARN FOR 3200 CATTLE.—A farmer out West has 3200 cattle, and purposes to accommodate them all in one barn and stable building. The plan is a sixteen sided centre, with sixteen wings, three hundred and fifty feet long each, affording room for one hundred head of cattle on each side of the feeding floor, or two hundred in a wing—3200 cattle accommodated in the sixteen wings. The centre building will afford room for a steam

engine, corn sheller, mills for grinding, straw cutters, steam boxes, storing feed, etc. Corn cribs, with hopper bottoms, will be placed between these wings and the corn brought into the centre building by the engine with drag belt, and delivered to the corn sheller, the shelled corn being elevated to the story above, into a receiving bin, and drawn thence by spout to the mill below for grinding—all performed by the engine. A feeding car, filled from the steam box, will be run along the centre of each wing, and the cattle fed right and left from it.—*West Rural*.

SHEARING SHEEP.

After remarking that sheep-shearing can be learned only by careful practice, the *Western Rural* says, if we were asked to give instructions to a new beginner, in as few words as possible, it would be about as follows:—Have only good shears, and keep them always in good order. Handle your sheep quietly—placing it in no uncomfortable positions, as it will very rarely struggle unless cramped or pained by awkward handling. Open the fleece on the side of either the belly or neck, as may come handiest after a few days' practice. We prefer the neck. Leave the back and upper part of the sides to be sheared last. Handle your sheep so that if it struggles it will interfere as little as possible with the fleece, which should always come off without breaking. Keep the shears flat, and cut slow enough to see where they are running; and leave no ground to be gone over the second time. Don't get nervous and hurried, but do your work only so fast as you can do it well. Speed is of secondary importance, and should never be sought at the expense of thorough workmanship. If at work with others, never let go your sheep until it is well out of the barn, as it will most likely frighten and make restless every other animal on the floor. Have patience, show mercy, and use common sense, and in a little while all the accomplishments of a first class sheep shearer will be at your command, and this is no mean distinction.

HENS IN PLACE OF DOGS.—There is hardly a family that does not throw away enough table scraps to keep at least half a dozen hens, and many that keep a nuisance in the shape of a dog, that does no good, but costs more than a dozen good hens, complain that they cannot afford to keep hens. One dog in a neighborhood is generally a greater trouble to the neighbors than a flock of hens would be, for if hens are well fed at home they will rarely go away. But who ever saw a dog that was not a pest, running across the newly made garden, and sticking his nose into everything. Kill off the curs and give the food to the hens and you will find pleasure as well as profit in so doing. We wish there was a tax of one hundred dollars on every dog kept in

the country. Those that are of value as watch dogs could be retained, while the host of snarling, dirty curs would give place to some more useful and less troublesome pet.—*Poultry Standard*.

VALUE OF EGGS.—During the war many experiments were made by medical men and others interested in the subject, to see in how small compass the most nutriment could be got, and after all the experiments of physicians, physiologists, patent rights men, savans and investigators on scientific subjects, they all had to knock under (to use a phrase more expressive than vulgar) to an old hen, or a young one either—for it was found that an egg contained the greatest amount of nutriment or life-preserving food in the compass it occupies, of any other known substance. True there are essences of meats, etc., that by combination with other articles may be as powerful, but alone the egg is the most nutritious. There is more life-sustaining element in a single soft boiled egg than in twenty times its bulk in bread or food of that kind.—*Poultry Standard*.

EXTRACTS AND REPLIES.

YOUNG TURKEYS AND CHICKENS DYING.

I would like to inquire through your valuable paper in regard to a disease that has shown itself among my poultry. I had fourteen turkeys; they seemed very smart for a few days and then they could not stand on their legs; they would fall down and could not get up, and would die in an hour or two from the time they were first taken. I have lost a number of my turkeys and twenty chickens; an acquaintance, forty-eight chickens out of fifty, and another seven in one day, the same way. I have done everything I could, but still they die, and I can find no one who can tell me what ails them, or what to do for them. If you can't tell, will you please to ask some learned poultryer to reply, as I am very anxious to know what to do, as all my poultry are dying. A SUBSCRIBER.

Haverhill, Mass., May 25, 1871.

REMARKS.—We cannot tell you what to do and therefore must ask some experienced poultryer to reply. Your description of the symptoms of the disease among your poultry is not sufficiently minute to enable us to determine what caused death. Several disorders terminate in loss of strength, or ability to stand, and death. For chicken cholera, alum water has been recommended, also mix their food with alum water for a day or two. Cinders from a blacksmith's anvil, pulverized and mixed with their feed is another remedy.

Mr. P. Welch, of Marlboro, Mass., wrote to the *FARMER* last year that he lost thirty young turkeys, about all he had. He gave one that could hardly stand a piece of saltpetre about the size of a pea, and the next day it was eating with the rest. He gave it to others with like result. A little gun powder may be mixed with their food.

On new farms or in new places on old farms, poultry is said to be generally healthy. It is sup-

posed that many of the disorders to which they are subject are caused by the excrements, &c., of their predecessors. The *People's Practical Poultry Book* goes so far as to say that "in the climate of this country there is no need of having any diseases among our domestic poultry, if proper care and judgment in the treatment of the same were manifested on the part of the breeder." A remark that will probably be received by most poultry breeders as based on a different experience in practical poultry raising from their own. Such declarations furnish a very unsatisfactory reply to inquiries like those of our correspondent and her neighbors, and a poor consolation for their losses and disappointments.

A CREAM-STRAINER THAT PREVENTS WHITE SPECS IN BUTTER.

A Cream Strainer or Crusher has been invented in this section that effectually prevents the occurrence of white specks in butter, and I think from several trials with and without it, that the amount of butter is increased by its use, though the butter-milk is impoverished. But I do not propose to advertise the invention.

CHEESE FLIES.

I wish to tell every cheese making woman, who has been troubled as I was two summers ago with these flies, which were not only a nuisance but a torment, that immediately after putting cobalt in the room where I kept my cheese, these flies were impotent,—I never saw another egg. Last summer you know the world was full of old and new things to trouble and destroy, but not an egg or a skipper did I see, for I kept my plates of cobalt wet with sweetened water all the time. There were plenty of flies; we killed as many cheese flies as the common house flies, but what cared I for the one more than the other as long as it could do me no harm. You will see I am not accustomed to writing for any one to read critically,—I never write only to friends who I am sure care more to hear from me than to criticize, and I would not now, only I did hope to tell some hard working woman something to do her real good.

Though I live on a farm, I am not a farmer's wife, but I hope some day to be. My husband is trying to earn money enough in another business, before he settles on a farm, to avoid being pinched, as many farmers are, for want of means. I am quite a farmer myself. I read all that is reported of the sayings and doings at farmers' conventions, but being a woman I must not attend them. I wish Dr. Nichol's lecture could have been reported in full. And, by the way, do you think his *Journal of Chemistry* would be interesting to me?

Johnson, Vt., 1871.

MRS. A. M. B.

REMARKS.—With a wife thus interested in farming,—one who cares more for the discussions at agricultural conventions than for love stories,—we think your husband would be safe in making you a farmer's wife at once. You are entirely wrong in saying that you may not attend agricultural meetings because you are a woman. Women not only may attend, but they may take part in the exercises. An essay—and a sensible one too—on farm horses was read by one at a meeting in New York, not long since. Ladies have taken part in the talks of several farmers' clubs on dairy subjects, and on topics involving household management. Everywhere the presence of the ladies at these

meetings is desired by the gentlemen, not simply as listeners, but as actors. We think you would be interested and benefited by reading the *Journal of Chemistry*, which is published at one dollar a year.

But whether you go to conventions or not, we warrant you a welcome, now and always, with a congregation of as many thousands as you will find hundreds at any farmers' meeting—with the NEW ENGLAND FARMER'S Club, which meets every week,—at the homes of the members, male and female.

THE COLORADO POTATO BUG.

This year I planted some of the Early Rose potatoes April 6th. They came up well and grew splendidly, and until last Sunday I never saw a field of potatoes that looked handsomer. Last Sunday I noticed some bugs on them, and now they are so numerous and ravenous that the vines must soon be stripped if the bugs are not checked. I enclose samples of them. What are they and what can I do to save my potatoes?

JOSEPH BARBER.

South Bend, Ind., May 15, 1871.

REMARKS.—On comparing the insects received with the cuts and description of the *Doryphora 10-lineata*, or Colorado potato-bug, in the *American Entomologist*, we have no hesitation in saying that this terrible scourge has reached your farm in its gradual advance to the East.

The bugs were somewhat crushed in the mail bags while on their way to Massachusetts, and for ought we know are the first specimens ever seen in New England; but unless their march is checked they will be here in force in the course of a few years. Prof. Walsh says that they move eastward at the rate of about fifty miles a year. He also remarks that, like Sherman's march to the sea, they crossed Illinois in separate columns, the southern portion of the grand army lagging considerably behind the northern columns. So far as is known, the Rocky Mountains were the original home of these creatures, where they fed on a wild species of potato peculiar to that region. A bug very closely resembling the Colorado bug has long been known in various parts of the country, but it does not meddle with potato vines. The two have been confounded by naturalists, but the *Entomologist* points out differences by which they may be distinguished.

Various means have been tried to destroy this potato bug, with only partial success. Various poisons have been used; hand-picking has been tried; they have been swept from the vines to be at once covered by a furrow of earth, and it is said that they may be destroyed by sweeping them from the vines on a hot day on to the hot earth. Persons have been poisoned by the fumes from the bugs thrown into hot water, &c. A Michigan correspondent of the *Western Rural* of June 3, after asking, Will potato-bugs kill sheep and lambs? says:—

The above inquiry is suggested by finding a few days since, several lambs and one old sheep dead,

and another old sheep nearly dead, upon a piece of ground where potatoes were planted last year, but which were so completely destroyed by the bugs as not to be worth digging. The sheep so nearly dead was brought to the house and examined, when several potato bugs were found upon it. These were picked off, a mild cathartic administered, when it soon recovered, and is now apparently well. The rest of the flock were immediately driven to another field, since which no deaths have occurred, notwithstanding several lambs have been dropped. No other cause can be assigned, as the sheep were all apparently healthy, and in good condition.

My theory is, that as the sheep were troubled somewhat with ticks, they would, while biting them, become poisoned by the bugs which swarmed upon them.

At all events, if potato bugs will not kill sheep, they are bound, from present indications, to kill all the potatoes planted this year, as they have already made their appearance in great numbers upon them. Would it not be well for those who have planted many potatoes, to plant corn between the hills, as, in this way, one crop at least may be saved, and the corn will not materially interfere with the potatoes, should the bugs spare them?

CANNING FRESH MEAT.

It may be a convenience to some families to know that *meat* as well as fruit can be kept perfectly sweet by canning. When the hot days of March came, we had something like one hundred pounds of meat that we were wishing to keep till eaten fresh, by our own family of eight persons. It was pork, beef and mutton, in all common shapes, i. e., steak, roasts, spare-ribs, boilers, fries, &c. Having several empty fruit cans, my wife cut up the steak in slices and partially cooked it, and sealed it up as she would fruit. The other pieces were treated in a similar manner, after taking out the bones and cutting small enough to get into the cans. After two months we are now using the meat as we have occasion, and it is as perfectly sweet as it ever was! We find it a very great convenience, especially when we want to get a meat meal at short notice. Mrs. N. carried a bit of steak to a convalescent sick neighbor, a few days since, who pronounced it the very best she ever ate.

It is so warm during the summer that meat can not be kept sweet but a few hours, except in an ice house, (which few farmers have.) Their cellars are often too warm to admit of "canning" meat; and to buy fresh of the peddlers every other day at a great profit for small pieces, is too expensive. If meat can always be "canned" so easily as our experiment indicates, farmers can buy in larger quantities, and at cheaper rates, or kill a pig, calf, or lamb, and "can" it all so as to have fresh meat much more, and salt ham and pork and beef much less of the time, at no less pleasure to the palate, if not greater benefit to their health. R. X.

Randolph, Vt., May 25, 1871.

PEARS ON STIFF SOIL.—ROME BEAUTY APPLE.— CORN IN VIRGINIA.

How is it all Pomological writers say the pear requires a stiff soil? I imagine the best pear orchard this side of the Rocky Mountains, is within three miles of the city of Norfolk. I furnished two years since, to a gentleman near Yorktown, Va., 1000 trees. They were put in pure sandy ground, in fair order. Their growth is astonishing. Apples and peaches bid fair to be abundant. Fig bushes killed to the ground last winter, for the first time for many years.

I distributed some years since, quite extensively

through New England, grafts of the Rome Beauty apple, grown extensively in O. and S. W. Would like to hear from some how they answer.

I came across a couple of apple trees in the valley of Virginia, a few years since, which I liked much. They bear every year, are quite large, mild, sub-acid, and quite good in the fall. I have eaten them in May when very fine. Would distribute a few grafts next spring to the right sort of people. I planted some of Moore's sweet corn this spring; have some now in silk. Can you beat that? S. CLARK.

Hick's Wharf, Va., May 27, 1871.

REMARKS.—No, sir, can't beat that; but could have beaten you out and out in cold weather, hot weather or a sharp drought, a few days ago.

Downing recommends as the best soil for the pear tree "a strong loam of moderate depth, on a dry subsoil." Baker says "those lands which part with their moisture readily are not suitable, neither is one which contains an excess of water." Cole remarks that "the pear requires a deep, friable loam, rather moist, but neither wet nor dry, with a rather dry subsoil, as its roots run deep; yet a porous subsoil is not good; a hard pan is preferable. A deep yellow loam is excellent. The largest natural trees are on strong, moist soil."

Pear trees will often grow rapidly on light sandy soil in New England, but do not bear as well nor live as long as when on strong loam or stiffer soil.

For the New England Farmer.

THE GARDEN IN JULY.

Go with me, kind reader, and let us make a slight examination of a friend's vegetable and fruit garden. It is not a professional or amateur's, but only a plain farmer's garden. Look at those early potatoes! The owner has taken several messes from them already for his dinner table. How did he manage to obtain potatoes so early? He merely took some extra pains to sprout, plant and care for them. Then here are peas, which he has been enjoying for several weeks; and there are string beans, too, with corn that looks as if he might have succotash soon; cucumbers to substitute for lettuce, radishes, &c., of which he has had an abundance; pole beans in the blossom, with some set; a bed of asparagus, which looks as if it had given the family a good supply; sweet potatoes that look as if in the early fall they might rival the productions of a more southern and warmer climate; peas that have gone by and later ones coming on; egg plants, producing a fruit which is a substitute for eggs during the annual vacation of the bid-dies; with a large variety of other vegetables, which we must not stop to mention, all thrifty and promising. All these have been thoroughly cultivated, notwithstanding the demands of the other farm work, and yet this man can hardly see where he has been obliged to employ any time that ought to have been given to other farm crops. But he has not yet got through with planting succession crops, for he is about to put in more sweet corn, cu-

cumbers for pickles, turnips, &c., that yet have time to mature. This, with strawberries, salads, &c., he is enabled to produce from his garden, from having highly fertilized, deeply worked and thoroughly fined the soil, to start with, and then planting in season, watering with liquid manure, when necessary, and doing everything at the proper time and in its season. Go thou and do likewise.

ASPARAGUS.—The bed has given us a good supply, and now we should compensate it by some stimulant like superphosphate or other fertilizer worked in among the roots, or cover with compost manure an inch or two thick, after cleaning off weeds, &c.

BEANS.—Gather and use as they fill, saving a few of the earliest to go to seed or ripen. Early varieties may be planted for a late crop of string; they will be fine for pickles or for canning.

BETS.—Early varieties may yet be planted for winter use. Any surplus will be good for greens or the cows.

BLACKBERRIES.—As the new shoots grow, tie them to the trellis or to stakes. Shorten in the main stem and branches to induce the forming of fruit buds; pull up small shoots, unless you desire to multiply them. Carefully secure any plants and branches heavily laden with fruit.

CABBAGE AND CAULIFLOWERS may still be planted out for late crops; there is little danger of providing these in too great abundance, as any not needed for family supply, are readily disposed of to the stock.

CELERY.—Transplant till the last of the month for late crop. Water and hoe frequently; you can scarcely apply too much water, if the drainage is good. Upon rapid growth depends the excellence of celery.

CORN.—Plant Crosby's Early, or some other equally good early, for late use, drying, &c.

CUCUMBERS may be planted for pickles. Hoe and water till the plants cover the ground; guard against insects. Save from the early crop for seed. Seed five or six years old, where carefully preserved, is best for planting, growing a larger proportion of fruit to vines. Cider vinegar is best for pickling.

CURRENTS.—These furnish a most excellent acid for the system and may be eaten freely with good effect, either right from the bush or as a dessert. Make jelly, preserves and wine from the ripe fruit. When the fruit is gathered is a good time to prune and thin out. I have never been troubled with the currant worm and do not know from experience what it is. The borer, aphid and scale need looking after to destroy them.

EGG PLANTS.—Forward them by frequent hoeing, with application of liquid manure.

ENDIVES.—Sow seed the first of the month. Sow in drills, and transplant to 12 inches apart in rich soil; hoe often.

GOOSEBERRIES.—Keep the ground around and under the bushes mulched with anything

to shade the surface, to prevent mildew and induce to larger sized fruit.

GRAPES.—Thin out the bunches, as needed. The severe summer pruning and pinching that a few years since were recommended, have been much modified by experienced cultivators. A certain amount of pinching-in is to be recommended, as also thinning, to grow larger fruit.

HERBS.—The best mode is to gather when in blossom, and cure and dry in the shade or house.

INSECTS.—The gardener will be continually looking out for and destroying all injurious ones, as they are destructive alike to fruits and vegetables; any means of destruction are commendable.

MANURE all backward plants by liquid manure or top-dressing. If you only manage right you can drive a plant as well as you can a pig.

MELONS.—Cultivate same as cucumbers. A flat stone or board under specimens will induce earlier, more even ripening, and they will not have that earth taste to such an extent.

ONIONS.—Weed and cultivate without drawing the dirt around the bulbs. Should the maggot trouble them, push away the dirt a little and try pouring on boiling water. Seed may be sown thickly in good soil to provide sets for spring planting.

PEAS.—If late or autumn peas are desired or those free of bugs for seed, they may be planted now, and if well cared for they will mature a crop, although more likely to mildew.

POTATOES.—Those early ones will now be ripe and right for the table; dig, and plant the ground to other crops which mature later in the season.

RASPBERRIES.—Cut down old canes as soon as the fruit is gone, and thin out the new ones as may be desirable. Three or four canes to a stool is enough. Keep well cultivated.

RHUBARB.—The leaf stems may be skinned and dried, same as apples, and will make a good substitute where apples and fruit are scarce. Do not cut too close; keep down seed stalks.

SEEDS.—Pay particular attention to growing, selecting and saving seed of all kinds, as they ripen. Gather before any begin to scatter or waste, and let them mature in safety.

STRAWBERRIES.—After the bearing is over, carefully weed, cut the runners and hoe. Apply some fertilizer and work it in as you hoe.

TOMATOES.—Do not let the plants suffer for want of water. Trained to stakes with a single stem, with side shoots pinched in, some claim as the best way. Transplanting to fill vacancies is still in order; this will be found a good remedy to repair damages of insects, defects in seeds, &c.

WEEDS are the bane of all good culture; they are neither useful, generally, nor ornamental. A clean garden, destitute of weeds,

plants growing freely and luxuriantly is a sight to gladden the eye of all careful gardeners.

W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

FLOWER GARDENING.

BEDDING OUT PLANTS.

Every day at this season finds us at work in the garden, planting out bedding out plants, sowing annuals and perennials, watering those that are drying up in the heat of these rainless days. But not until the sun has fallen below the hills, do we care to exercise our strength in carrying water for his lordship, the Sun, to drink up, but will do it willingly for the bright, beauteous flowers which are so dear to our hearts; and if tepid, warm water is given to them at night fall, they gratefully drink it up, and grow much more rapidly for it.

English books on *gardening* tell us that too much watering injures the plants; that the roots will not strike down deep in search of moisture if it is daily given on the surface. This advice applies to their country, but not to ours, where the summers are so dry and hot, and rains fall so rarely when compared to their misty, moisty island, bedewed with fogs; but of this anon.

Bedding out plants yearly increase in popularity, on account of the trouble involved in the culture of annuals. They can be purchased cheaply at many greenhouses, and now that "Uncle Sam" allows us such facilities in receiving them through his post bags, the florists are at our own doors, and two to five dollars will give a fine supply of plants. The last named sum will stock a small garden with verbenas, geraniums, heliotropes, feverfews, &c. Read the catalogues for yourselves, fair friends, and see the bounteous and beautiful supply that they offer for your approval.

Bedding out plants are dwellers in the forcing houses during the winter, and are transplanted into the garden in summer, where they supply us with a profusion of lovely, fragrant and brilliant flowers until the frost regains its sway; but some of them are greenhouse perennials, like the verbenas. Their treatment is very simple, and compared with the pleasure they give to flower-lovers, they ask but little attention at our hands. It is not well to plant them out until frosts and east winds have given us their last call, for both of them are very injurious to their tender growth. In most parts of New England the fore part of June is early enough. If bedded out sooner they will not make any growth, and it injures them when in a healthy condition, to be thus retarded by cold nights and chilling winds.

When the bright summer-like days of May appear, we greatly desire to clear the windows of their floral treasure and empty the

hot-bed of its contents, but we must cast aside all such ideas, knowing that it is not well for the plants. But when "settled weather," as the farmers style it, has really come, then we hasten to deposit our darlings in the fresh beds which have been duly enriched and spaded and raked over for their reception. We select a day that is showery, or an evening after a shower, and dressed for the work, in dark calico, thick boots and a long apron to shield us from dirt, we commence operations.

The ball of earth in the pot, is thoroughly wet and a knife is run around its edges, then the pot is turned bottom upwards, over the left hand, and a few raps upon the pot will leave it in the hand. Trim off a little of the fibrous roots on the outside and set the ball containing the roots into the earth, planting it as tightly as possible. There lies the secret of successful transplanting. Water the plant well, and unless the following day is very warm they will not require to be shaded; but if the roots were much broken up, it is well to cover with newspapers, or the large leaves of the rhubarb plant. Water freely when the season is dry, and if liquid manure or guano water can be given once a week, their growth and bloom will be much finer.

The Zonale Geraniums are very desirable for bedding out, on account of their plentiful clusters of beautifully colored flowers—from the brightest, most fiery scarlet to the rosiest pink, the lightest blush and the purest white. A large bed or mound, composed entirely of Zonale Geraniums, will present a gorgeous display of flowers until the frost cuts them down.

From the older varieties many new and beautiful varieties have been produced by seeds and the named sorts are very numerous. Among them we should select Gen. Grant, a very free bloomer, and of a most vivid scarlet. This variety originated in Ohio, and its flower trusses are enormous, almost covering the plant with their gorgeous bloom. *Louis Veillot*, intense scarlet, extra fine, cheerful, bright cherry, splendid flower. *Cybaister*, scarlet nosegay. Gen. Sheridan, rich scarlet flowers of perfect form. *Gloire de Corbenay*, bright color, lightly tinged with white. *Herald of Spring*,—flowers a deep cherry color, tinted with orange, very large, and the leaves have a broad zone, perfectly defined. *Blue Bells* is a monthly, with large clusters of magenta pink flowers. *Marie L'Abbe*, flower white, with pink centre. *Madame Werle*, white clusters of flowers, spotted with pink. Incomparable, salmon-colored flowers, striped with white, leaves beautifully zoned with chocolate brown. *Bicolor*, deep salmon-color, edged with white. *Maulam Gueffier*, vermilion, edged with flesh color. *Christine*, rich rosy pink. *Countess de Morella*, very beautiful scarlet flowers. *Magawisca*, delicate rose color, white margin and eye. *Mrs. Austin*, salmon, edged with blush, large flowers

and fine truss, foliaged beautifully, zoned with dark chocolate. Polar Star, the purest white and very large cluster. Rose Rendatler, brightest rose, spotted with white, very beautiful. Superba, bright scarlet, with white eye. Victoria, violet crimson, white centre. All of these varieties are particularly choice, and will of themselves compose a brilliant garden of unnumbered dyes. Verbenas are easily raised from seeds, and they excel in rapidity of growth, and profusion of flowers those that are obtained from cuttings; but one is not as sure of choice and brilliant coloring, so it is always well to supply oneself with both seedlings and plants. The flowers raised from seedlings are much more fragrant than those produced from cuttings. In a natural state the verbenas are usually fragrant, but after having been rooted again and again, it loses this attribute. The more delicate colors are always the most fragrant. Properly cultivated, seedlings will give better satisfaction than plants. They will not grow on the same locality, year after year; if so planted, they will be liable to attack from the root lice, which soon kill the plant. They require a sandy soil,—two or three inches of pure sand scattered over the surface of the bed will keep the heat of the sun, and make them bloom profusely. Soap suds given once a week will also increase their growth. They seed very abundantly if not far removed from the mother plant, and in mild climates will often sow themselves if straw or hemlock boughs are thrown over the bed in the autumn. The tiny leaves, when they first start, resemble weeds, and they should not be touched until the rough serrated leaves of the plant have developed themselves.

Among all the numerous varieties of bedding out plants upon which we can always depend for a gay and brilliant garden, the verbenas take first rank. Every year sees a great increase in new varieties, which excel in size and brilliancy and in variety of coloring all that have been produced in former years. They are all raised from seed, and Peter Henderson grows thirty thousand plants yearly, from which he selects one in a thousand to present to the trade as No. 1 plants. Among those that were produced last season are Annie, pure white, striped with crimson; Black Bedder, very dark maroon; Conspicua, ruby scarlet, white eyes; Cupid, large white, tinted with pink; Distinction, solferino, dark eye; Fire Cloud, fiery scarlet, yellow eye; Formosa, large pink, white eye; Monarch, large bright scarlet; Punctata, spotted and striped with carmine; Ruth, lilac blue; Sensation, waxy white, carmine eye; Snow Storm, purest white; Tricolor, carmine, crimson and orange; Unique, white carmine spot.

All these varieties are distinctive and beautiful,—some of the separate flowers measure an inch in diameter, and the whole truss

or cluster is enormous. For many years the culture of the verbenas has been a *specialty* with Mr. Henderson, and the plants he selects are sure to excel in profuse flowering and great beauty of coloring.

Verbenas will grow and bloom with very little care, but they flourish much better if their desires are attended to. In August, cuttings must be struck for the winter, and small pots can be sunk in the beds, and the thrifty branches pinned into them with hair pins. They will not bloom in winter unless plenty of light and air is afforded them, and they do not require a great supply of water,—often one fails to grow them on account of watering too freely. Green lice—*aphides*—are their great pest, but they can be brushed off with a chicken wing, or the plants can be placed under a tub with a saucer of hot coals and some tobacco and smoked. Lice cannot live where plants are daily showered. The root lice are more formidable enemies, and if they once take possession of your plants, it is best to pull them up and throw them away. If the plant is very valuable it may be saved by taking it up and washing all the roots in tepid soap suds. The lice fasten themselves directly about the stem and suck out its life. Fresh soil rarely engenders these plagues. It requires much care and daily attention to cultivate a beautiful garden. No farmer grows a crop of corn or cabbages without some labor. Since it was decreed that man should eat his bread by the sweat of his brow, toil and care have been required of him, if he would make his land support him. So it is with flowers,—it does not do to plant out our flowers and then let them alone; nor to care for them assiduously one week and neglect them the next. They demand of us daily attention, if we would have them grow in grace and beauty. In the drought of summer they must have water, or they will give you no flowers,—it must be given them nightly or they will dry up. Irrigation is quite as essential upon many a New England farm and garden, as it is upon the fruitful fields of Utah. We should raise much larger crops, much finer fruits and a much more abundant supply of flowers, could we pull up the sluice way at our door and let the refreshing, cooling waters flow among our crops and flower beds, as do the Mormons. The time is coming when more attention will be paid to this method of fertilizing. Last summer's intense heat showed us its necessity, and this season threatens to teach us another lesson. So, fair friends, let us set hogheads under the eaves to catch the rain when it will condescend to fall, and let us give the thirsty flowers a good drink of it every nightfall. Tubs of water can be drawn from the aqueducts or pumps every morning and allowed to warm in the sun, and when it has gone to rest we can plentifully besprinkle the lovely flowers which so fully repay us for all the toil and care we give them. S. O. J.

EFFECT OF COMMERCIAL FERTILIZERS.

DOES THEIR USE TEND TO THE IMPOVERISHMENT OF THE SOIL?

I have a piece of ground of light soil that will produce only twenty bushels of potatoes, but by using phosphate I get seventy bushels. Does the phosphate alone make the fifty bushels, or does it serve to draw enough from the latent properties of the soil to make the crop? and if so, is not my land poorer for it? READER.

REMARKS.—The questions of our correspondent are somewhat searching ones. The last two questions may be answered by the monosyllable, Yes. That brief reply, however, would not give a clear and satisfactory solution of the case. The application of the phosphate may be explained by a homely illustration. In drawing a load, if the whip is applied to the horse, the load is moved faster, but the power of the horse is sooner exhausted. So if a person uses a stimulant, he may accomplish more labor of brain, or of muscles and sinews, for a short period, than he could have done without it; but the power of brain and the other organs would sooner yield to the pressure.

It was *not*, we conceive, "the phosphate alone which made the fifty bushels of potatoes," but an accelerated action, caused by the phosphate, of all the elements in the soil which go to make up the potato. These elements *were* in the soil, in small degree perhaps, and dormant for want of some stimulating cause. They were not sufficient in quantity, or vigor, or were not sufficiently comminuted and mingled with each other to enable them to act in conjunction *with the elements of the atmosphere*, and so the crop was light.

"The successful growth of a crop or a field, proves that it has found in the air and in the soil the atmospheric and mineral constituents of its food in the proportions suitable for its nourishment. The failure of a crop on the same field, indicates that in the soil there is something wanting which is necessary for its growth. In case of failure, therefore, we must look to the ground; the atmosphere is always ready to supply its portion of plant food." It is "nearly invariable in its composition at all times and over all parts of the earth's surface. Its power of feeding crops has, therefore, a natural limit, which cannot be increased by art.

"The soil, on the other hand, is very variable in composition and quality, and may be

enriched and improved, or deteriorated and exhausted."

A soil may possess all the elements for plant nutrition and still not be a prolific one. This may come from several causes. First,

From too Dry a Condition of the Soil.

If rain has been withheld for a long time, and evaporation excessive, there would be little action in the soil, and crops would fail. If it were deep and rich in nitrogenous matter, it would hold out longer than a thin and poor soil, but would finally cease to sustain plants as action in it grew less and less.

The Effect of too much Water.

The effect of a superabundance of water would be much the same as a want of it; each would prevent action in the soil, and hence no nutrition would be supplied to the plants standing in it. The same conditions would affect animal life in a similar way. Water and air are indispensable to man, but if the former were present with him in great excess, or the latter were withdrawn, his vital functions would soon cease, and he would die. The same principles seem to us to be involved in plant and animal life.

Again, very much will depend upon the *mechanical* condition of the soil. The question naturally arises, Was the land planted with potatoes in the same condition, with the exception of the addition of the phosphate? One hundred pounds of a fertilizer applied to a soil that is fine would probably be as efficacious as 200 or 300 pounds on a coarse lumpy soil. Baron Liebig explains this point so clearly that we give his words as follows:

"The *rapidity* with which a substance, such as a piece of sugar, is dissolved by a fluid, is in proportion to its state of *division*. By pulverization its surface is increased, and consequently the number of points augmented, which, in a given time, are brought in contact with the dissolving fluid. In all chemical processes of this kind, the action proceeds from the surface. An element of food in the soil acts by its surface, the portion beneath the surface is inactive, because it cannot be dissolved. Its effect, within a given time, increases with the quantity taken up by the plant during that time. Fifty pounds of bones may in one year produce, according to their state of division, the same effect as one, two or three hundred pounds coarsely ground. In the latter state it is by no means inefficient; but to act, that is, to become soluble, it requires a longer time. The effect produced by it is smaller, but it continues longer.

"To understand correctly the effect of the soil and its constituents on vegetation, we must keep steadily in view the fact, that the elements of food present in it always possess within themselves active powers, but *they are not always in condition to exert this power*. They are ready to enter into cir-

culation, like a maiden to dance, but a partner is necessary."

By the foregoing, we think our correspondent may see pretty clearly,—what he seems to anticipate in the phraseology of his question,—that it is possible to render his land less fertile by the use of stimulants. Cases of this kind have been often recorded, where phosphates, guano, and other stimulating matter had been long applied, until nearly all action ceased in the soil, and it refused to bring a crop.

We have always been of the opinion that the moderate use of a pure "commercial fertilizer," sold at a fair price, could be made economical to most farmers. But it *must* be in connection with the common manures of the farm, good muck, and an abundance of other vegetable matter, in order to keep an ample bed of humus in which the concentrated manures may act.

It is said that lands in some portions of the Southern States have greatly degenerated in the use of concentrated manures. The system there of keeping stock does not admit of the saving of much manure; even if it did, the amount of stock kept is so small that all their manure would be of little account on their large plantations. Under these circumstances they resorted to the natural beds of fertilizers found in various portions of the country, and used it until the soil is depleted, inactive, dead. It must now lie barren, until Nature's processes impart life and vigor to it, or the hand of man turns it up to the light and air, and with clover, millet, or an abundance of other vegetable matter mingled with the soil, sets it into action again for the production of paying crops.

Now we come to the question, Is there not danger of adopting a system by which the ground must gradually lose the conditions of its fertility, by which it must be impoverished and exhausted? We think there is such danger. Our main resources must be within ourselves. Help, we can obtain, incidentally. So far, however, we have not managed our own means with that system and economy which would give us more ample returns. What manures we already have are capable of producing a two or four-fold action, by using them in a finer condition. So that they will mingle intimately with a fine soil, where the

roots of plants may rove at will through them, and find all the supplies they need for a vigorous and perfect growth.

Let us, then, gather up every possible material that can be converted into manure, and preserve it, until wanted for use, so as to retain all its qualities. Then work it over into a fine mass by the use of muck, loam or such other means as each one's circumstances will permit. Let us do this, and the seeming necessity of employing large quantities of commercial fertilizers will gradually disappear.

VISITING BY FARMERS.

We have often advised farmers to visit each other more frequently and more socially. We believe that with mechanics in Europe it is a custom, if not a requisite for the completion of a trade, for the journeyman on the expiration of his apprenticeship to spend some years as a "tramp," in travelling about and working in various shops to learn the ways in which work is done in different establishments. The young farmer who "works round" a few years may enjoy similar advantages. But after one buys a farm, the cares of business and the press of labor are often deemed a sufficient excuse for remaining at home, and many farmers would as soon think of planning an expedition to the north pole, as of taking a day's vacation to see what their neighbors were doing and learning how they do it. Occasionally, however, a farmer gets loose, and enjoys the examination of the stock, implements, and management of others so well that we think the number of visiting farmers is yearly increasing.

A correspondent of the *Maine Farmer* is writing for that paper a series of articles entitled "A Farmer's Vacation," in which we have some very pleasant views of the farms and homes he visited. In his last article he describes two farms in Middlesex County, Mass.; that of the senior Editor of this paper, and that of Sturtevant Brothers, South Framingham. As Mr. Brown is busy with his spring's work just now, the junior takes advantage of his absence from the office in the city to copy the following description of his farm by the writer alluded to, who gives the initials "Z. A. G."

Farm of Gov. Brown.

My first visit was to the farm occupied and conducted by the Hon. Simon Brown, well known to the farmers of Maine as the senior editor of the *NEW ENGLAND FARMER*. His genial editorials have cheered many a farmer's home, and his advice has been accepted as the highest authority. His farm is situated in the historic town of Concord, and embraces the field on which the militia assembled to resist the approaches of the British. It consists of one hundred acres, and is pleasantly located on the westerly bank of the Concord river, sloping gently towards the low meadows which for a long distance border the river. The snow lay deep on the ground at the time of my visit, so

that the visit was more to the barns and the editor and his family, than to the farm.

The buildings are pleasantly situated and conveniently arranged at a little distance back from the street, and are surrounded by a well kept lawn interspersed here and there with shade trees. The flower and fruit garden is located in rear of the lawn, and forms a beautiful background to its velvety greenness. Still further back is a fine young orchard, set and tended by the proprietor's own hands, and showing a uniformity of growth and appearance seldom excelled. Everything about the premises, whether on the farm or in the barns and outbuildings, showed the most perfect cleanliness and order. A portion of the farm has but recently been purchased, and has not yet been brought up to that state of productiveness which will be realized in the future.

In the stables were a dozen cows, a part of them Ayrshires, and the others Jersey; five horses belonging to the estate, and thirteen boarders. The feed for this stock was English hay, corn fodder, and oat straw cut green and unthreshed. This is run through a feed cutter propelled by horse power, mixed, wet up, and a small quantity of corn meal and shorts worked in with it. This is prepared before wanted for use, left in a mass to soften for at least twelve hours before any is used. The feed is believed to be much improved by this preparation, and stock thrive upon it much better than upon dry feed. Connected with the stables are the hen house and the boiler room for cooking the feed for swine. These are characterized by the same order and neatness elsewhere manifested. Some fine specimens of White Chester pigs were in the cellar upon the manure—kept to grow, as the proprietor said, and not to work. If that were the sole object, why they were kept upon the manure from the stables, unless to tread it down, I could not see. In an adjoining apartment was a generous pile of mangel wurtzel beets, grown for the pigs and cows. These are considered very excellent feed, and are thought to be a profitable crop.

After a brief inspection of the farm and stables we returned again to the house. This is constructed in conformity with correct rural taste, without any effort to display wealth or magnificence. It is just such a home as an educated farmer of taste would desire. Proceeding to the library, the afternoon passed quickly away in conversation upon various topics pertaining to agriculture. Here, surrounded by his books and papers, his editorial labors are all performed. His expressed ideas found in his writings and lectures, which have such a home flavor, are the natural outgrowth of his pleasant surroundings. His editorial harness sits lightly upon his shoulders. He seldom visits the office in Boston, but instead spends much time, as every agricultural editor should, in visiting the farmers whom he would instruct, that he may fully understand their condition and their wants. My thanks are due to Mr. Brown and his pleasant family for kind assistance and polite attentions, which rendered my visit to their model country home exceedingly pleasant.

HARD WORK TO WRITE.—Farmers and others who are not much accustomed to putting their thoughts on paper, often complain that it is hard work to write. But these persons generally suppose that it is owing to want of practice, stiff fingers, &c., and that the easily read and smooth compositions of authors, editors and other fluent writers, are produced without much labor. This is probably a mistake, in most cases, though some persons write much more easily than others. An American historian stated that he had copied or

re-written his work eight times with his own hand, before offering it to the printer.

Among the agricultural writers of note in this country, there is perhaps none whose style appears more natural, off-hand and easy, or less studied and labored, than that of J. Harris, Esq., who writes the "Walks and Talks on the Farm" in the *American Agriculturist*, in addition to books and more elaborate papers, and yet in his last article he says, "I would rather at any time dig a rod of ditch than write for ten minutes."

Excellence in writing as in everything else is the result more generally of perseverance and hard work than of any natural gift, and we copy the remark of Mr. Harris for the encouragement of farmers and others who may be disheartened by the effort and labor it costs them to get their thoughts and facts in readable shape on paper.

EXTRACTS AND REPLIES.

TURNING MUCK INTO A PROFITABLE FERTILIZER.

I am a young farmer just commenced in life, and being a reader of your valuable paper, and noticing with interest the great amount of practical information diffused throughout its columns, and the wisdom with which the numerous questions of your readers are answered, I have concluded to ask one, although I am afraid it is an old one. I have a good muck bed and I would like to know if I could produce a good article to top dress my land with, by adding to it some other ingredient that will produce an artificial manure, which will benefit the land, and whether such a composition would be a paying investment of time and money? May 3, 1871.

F. M.

REMARKS.—That the use of a sufficient quantity of good muck to absorb the liquid portions of manure, house slops, &c., and to increase the bulk of the droppings by one-half is a paying investment, is confirmed by the experience of many practical farmers. Experiments in the use of muck alone, and with muck mixed with other materials, have been made by many farmers with very different results. Old meat brine, or brine made from cheap salt, ashes, lime, saltpetre, salammoniac, &c., have been tried, but we believe not extensively used by farmers. Who can tell F. M. what ingredient to put with his muck to make a cheap and good fertilizer.

CATTLE LICKING PAINT.

What will counteract the poison which a calf gets by licking old sills or walls of a barn? I have lost a number of calves from that cause, and never could give them anything which would save them. I have one now sick from that cause.

CHARLES K. TRACY.

Hinsdale, Mass., April, 1871.

REMARKS.—If the barn is painted and the calf has licked that paint, give it a teaspoonful of saltpetre mixed with meal, every other day, until you have given three doses. If the barn is not painted, the licking is occasioned by that morbid appetite which prompts cows to chew bones, old leather and boards. We call it "morbid," when

is probably the natural appetite longing for something essential to the animal, which it cannot get. No nostrum has yet been discovered that will satisfy this desire. The true remedy,—if disease it is,—and the true preventive of it in all animals, is their liberty, and access to the bare ground, and especially to ploughed ground.

Cows are rarely seen chewing old bones in the autumn after running in a good pasture all summer, but usually in the spring, after a long winter's confinement.

Keep the calves clean, their skins loose, feed them generously with good hay and a little grain of some kind, and give them their liberty, and they will not be likely to lick the sills or walls of the barn.

USE OF LIME ASHES.

I would be glad to gain some information through the *NEW ENGLAND FARMER* in regard to lime ashes. Are they a good fertilizer to harrow in for turnips? Are they good for corn and potatoes applied in the hill? My land is dry and free from limestone. GEO. A. CARPENTER.

Cheshire, Mass., 1871.

REMARKS.—If by "lime ashes" is meant the ashes where limestone is burned, we have no doubt but they would be very valuable. Large quantities of wood are consumed in burning the stone, the ash of which, with certain portions of the lime that would be likely to fall among it must form a very valuable fertilizer, especially for a soil that has been cultivated for many years.

A common kiln affords about 200 bushels of lime, in the form in which it is put up in casks, and ten cords of wood are consumed in the burning. Of course, what is left after taking away the lime, must be of a valuable character.

GRAFTON MINERAL FERTILIZER.

I would like to have you publish in the *FARMER* the analysis of the ore from which the Grafton Mineral Fertilizer is made, and also state to what class of minerals or geological specimens it belongs; and how is it manufactured; whether burned like lime or ground as plaster? Where is Grafton? J. N. ISHAM.

South Wilbraham, Mass., May 6, 1871.

REMARKS.—The town of Grafton is in Grafton County, N. H., on the northern railroad, 44 miles from Concord. We have specimens of the rock from which the "fertilizer" is said to be pulverized. It is not burned like lime, but broken and ground like plaster. Some of our specimens are fresh from the rock, solid and heavy; others are from the surface where they have been acted upon by the atmosphere, causing the rock to assume the appearance of mineral paint, and pieces broken off are quite light in weight. We do not profess to be versed in geology, and give below an extract from the statement of the proprietors, Davis, Thayer & Co., which will show what is claimed to be the character and composition of the Grafton Fertilizer:—

"The Grafton Mineral Fertilizer is the pulverized

ore from the Dolomite Vein of the Grafton Gold Mine. The following is an extract from report of Dr. Torrey:—

"The rock itself was next examined, chiefly with a view to determine the proportions of Silica and Carbonates it contains. The average quality was obtained by taking small portions from numerous specimens of the Rock, pulverizing these and mixing the whole until it was uniform in composition. Some of this was then analyzed, and found to contain 40 per cent. Silica. The rest was nearly all Dolomite, or a double carbonate of Lime and Magnesia."

A careful examination of a similar sample by Thos. C. Raymond, of Cambridgeport, Mass., gave the following result:—

Silica,	30.30
Protoxide of Iron,	6.27
Lime,	20.60
Magnesia,	11.17
Carbonic Acid,	32.11

Total, 100.45

SIDE ORIFICE IN A COW'S TEAT.

I wish to inquire what to do for a two-year-old heifer that has an orifice in the side of her teat, through which the milk flows in a stream when milking. HENRY B. WHITE.

Topsam, Vt., May 4, 1871.

REMARKS.—If the cow was dry, perhaps by scarifying or burning with a hot wire the orifice, and applying sticking plaster, collodion, glycerine or some such material, the aperture might be closed and the skin induced to grow over the opening. But while the cow is in milk we doubt whether anything can be done. By bringing the palm of the hand directly over the orifice while milking, the flow of milk through it may sometimes be mostly prevented. But after all, any such deformity or defect in a cow is perhaps most economically overcome by fitting her for the butchers.

A SICK SOW.

I have a sow that showed signs of illness the 20th of present month. From careful observation I believe it to be stoppage of water. Is there a remedy for such trouble with hogs? She was to have dropped her pigs the first day of May. n. s. c.

Shelburne, N. H., 1871.

REMARKS.—If the sow has not been ailing for some time, the difficulty is probably mechanical. Her increased size may have caused pressure upon some of the urinary organs. If so, when she has dropped her young the trouble will cease.

FAT MEAT OR GREASE FOR HENS.

Will grease or greasy matter make hens lay soft eggs? FREDERIC.

Worcester County, Mass., May 4, 1871.

REMARKS.—If fed in large quantity or for a long time, we think very greasy matter might prove unhealthy, and hence might cause soft eggs. Hens require a variety of food, and will not thrive or do as well on any one kind, as when the variety which they enjoy when at liberty to pick up first a seed of one kind of grain, then of another, then a bug or worm, then a dip at some vegetable leaf or root, and so on throughout the day. A little fat

meat will make hens sing gratefully; but too much should not be given them.

OLD AGE AND AGRICULTURE—CORN STALK FODDER.

Please find enclosed two dollars and fifty cents to pay for the FARMER another year. My attachment to it increases with my years. I am conscious that I cannot remain in the material form much longer, but I feel more interested in the improvement of agriculture than I did in my younger days. I believe in eternal progress, and that so long as I remain here in the body it is my duty to improve this world all I can. If I could say anything for the benefit of others I should be glad. I think I have got more than the price of the FARMER for one year, by giving heed to your article upon preparing food for stock. I never before turned my corn fodder to much account. This year I have passed it through a hay cutter and moistened it twenty-four hours and mixed some meal with it, and find it has fully answered the purpose of good English hay. Your editorials, extracts and replies and market reports are almost invaluable to me, as I am so decrepid that I cannot get away from home, but want to know what is being done abroad. THOMAS HASKELL.

West Gloucester, Mass., May 2, 1871.

SHOEING HORSES.

I have for some time been a subscriber and reader of the FARMER, and have occasionally seen articles in it concerning horse shoeing; and I have often thought I would like to express my opinion upon the subject, but not being a newspaper writer, have not until now made an attempt to do so.

I find by observation that most of the blacksmiths shoe to suit themselves. I certainly do; and have good success. I make my own nails and shoes. I do not like the pressed shoe, for the reason that it is too wide at the toe; and consequently must be narrowed too much at the heel, which contracts the foot and causes corns, and is apt to make the horse lame. Furthermore the nail-holes are too far back toward the heel, and are liable to crowd.

Now, I am inclined to believe that it is much easier to widen a shoe than to narrow one. My motto is, to have the shoe, when finished ready for setting, so that it will balance on the two nail-holes nearest the heel. When such a shoe is set, the heel or quarters of the foot are left free where the growth starts.

Now about paring the hoof. It should be pared at the toe mostly, in the majority of cases, but not too thin; set the shoe well back, and trim off the toe. This allows the muscles free and easy action, and the horse to stand square and easy, which gives him a much better appearance than when standing on his heels altogether, with toes turned up at an angle of forty-five degrees, like some horses I have seen in my travels. J. R. L.

West Braintree, Vt., May 5, 1871.

SALT.

No wrong habit or injurious stimulant can be abandoned without feeling at the time a reaction. An account is given in the FARMER of April 29, of the lessening the amount of milk obtained by omitting the accustomed use of salt. I think it was caused by the reaction, and only proves the use of salt to be injurious. If we are to judge only by objects produced when their use is suddenly omitted, then I could easily prove by experiments of only three days, that alcohol, tobacco and opium are among the greatest blessings known to mortal man. If the principle of reaction when we quit injurious habits was well understood, it would

warn us against the contraction of many bad habits.

I think we need the salt or some other question to set the people to thinking on this subject. Was the ill results of the experiment caused by the lack of necessary food or the reaction from an unnecessary stimulant? I think reaction. For salt exists in the living organism in only very minute quantities, and from the liberal amount given the animals, I think no deficiency could result from omitting it for three days. The thirst that the use of a little more than the usual quantity causes in ourselves, and the acknowledged injurious effects of too much for animals, suggests that possibly there may be two sides to this question.

Concord, Vt., May 5, 1871. W. V. HARDY.

A GOOD COW.

Mr. Thomas Eastman, of this place, has a three-year-old native heifer that dropped a calf December 8, 1870. Since then up to the first of May, the family of two have used all the butter and milk they wanted, and there have been made and sold in the same time

103 pounds butter, at 40 cents	\$41 20
378 quarts new milk, sold at 6 cents	22 68

\$63 88.

Her keeping was two quarts meal, two quarts shorts, with all the good hay she could eat daily. If any one can do better let them advertise the cow for sale.

Great rain in this section. Streams are high. The Connecticut river is rising fast. Distant hills are white with snow. Grass looks well. Some have planted corn and potatoes. OLD IRON.

West Lebanon, N. H., May 5, 1871.

BUGGY PEAS.

Noticing the request of a subscriber for a remedy for the pea weevil, I will give my experience; and if it will help any one to get rid of the pest, I shall be satisfied. Some twenty-five years since, a sister sent me a package of peas from New Jersey. I took a fancy to soak them in warm water for some time before planting. Before planting I noticed a dark spot on each pea. I examined them, and found a well formed bug in every pea, which I destroyed. I do not recollect as any of them were alive. Perhaps they were drowned. I have planted them about every year since, and have never had a buggy pea. Again, I sent to Boston for some peas. Before opening the bag, I took a dish of warm water and put the mouth of the bag into it, and turned the peas into the water; and the way the bugs scrambled for life was a caution. I examined every pea before planting. I have not had a bug from them. Again, I got some peas from Rhode Island which were recommended because they were not much buggy. I went through with the same process and have no buggy peas. A brother was telling an old Shaker of my experiment, when he said if the peas were put in a tight box or bag and kept over one year the bugs would die, and thus get rid of them.

If a whole neighborhood would unite to drown or starve the bugs they might soon be banished. If you should publish this and any should try it, I should like them to give the result.

Newport, N. H., May, 1871. H. A. JENCKES.

COMPLIMENTARY.—PROFIT OF FARMING.

Although I am not a tiller of the soil, just now, I feel a deep interest in that branch of our common business; and I think my interest in farming was greatly increased by the reading of your valuable paper, the NEW ENGLAND FARMER. Your paper has been greatly increased in size and inter-

est since I commenced taking it. And may it continue to prosper for a long time to come. I think one of the great secrets of farming is a thorough pulverizing of the soil.

When I commenced farming for myself, twenty years ago, I had a capital of only one hundred dollars, and when I sold my farm, two years ago, I had over thirty-five hundred dollars. Now if any one thinks farming does not pay, I shall beg to differ from him, although I must admit the truth of the old maxim,

"He that by the plough would thrive
Himself must either hold or drive."

GALEN ROSS.

Springfield, Mass., May, 1871.

For the New England Farmer.

NEATNESS ON THE FARM.

Who that has ever travelled about among the farmers of the country has not sometimes been disgusted with the untidy appearance of some of the places he has visited. One may sometimes find a man who carries neatness to the extreme, and spends more time in keeping tools polished than is profitable. I have seen a man show with much pride a set of shovels and forks that had always been kept up to a high state of brightness, by scouring in sand every time they were put away; and this after they were so badly worn that no man with a true idea of economy would have allowed himself or his men to use them at all. One cannot afford to wear a fork, or hoe, or shovel clear up to the handle. Most people use ploughs, harrows and cultivators as well as shovels, hoes, and forks too long after they are worn below a profitable working condition. The best carpenters keep their saws, chisels and planes constantly sharp, and find economy in it. So should the farmers keep their ploughs and cultivators in good working order by changing the old points for new ones much oftener than they do; and as long as they are worth using, they should be kept clean and bright.

I have known many tolerably good farmers to buy a new plough or cultivator and when done using it for the day, leave it out in the rain or dew over night, without ever wiping off the dirt that adhered to the castings. The next time the tool was used it would be found covered with dirt and rust, which it would cost ten times as much to remove, as it would to have kept it off if it had been attended to at the right time. No rusty or dirty farm implement is profitable to use. It is the work of but a few minutes to wipe the dirt from a plough, horse hoe, or any of the many hand tools used on the farm, if done at the moment we are done using them. A woollen cloth with or without grease, or even a dry sod will remove the dirt from a plough, and save much scouring in the future. Many plough and cultivator castings are broken every year by being thumped against rocks, while in use, to knock off the dirt that adheres in consequence of their not being kept clean and bright.

In laying down fields to grass, neatness as

well as economy requires that loose stones and rubbish of all kinds should be removed, and the land well rolled down, and as far as practicable the larger and fast stones should be removed either by sinking, or blasting and cleaning off from the field. A mowing field never looks quite as neat if it is covered by rocks and stone heaps, as it does if all are cleared out and the land left as smooth as a well kept lawn. I have heard men argue that removing large rocks did not pay. They said it cost a great deal, and when done there was nothing left but a hole in the ground which must be filled up by carting in soil. I have known those same men to find time almost any cloudy day to go off fishing, and when night came all they had gained was an empty stomach, and possibly a half dozen little mud pouts.

A year's stock of wood for fuel all cut and piled under cover is a pleasant sight to almost any farmer's wife. I find different farmers have quite different ways of getting together such a pile. I see some who bring all the refuse fuel on the farm right up to the door and leave it there till they find time for themselves or their men to cut it. Old fence posts and rails, broken down trees, and broken down wheels and other farm implements past use, are dumped close by the kitchen door. In a few years the yard is covered with sawdust and chip dirt, and the green grass gives place to burdocks, nettles and other coarse and disagreeable weeds. I find other farmers who have their wood pile a little farther off from the buildings, in the corner of some lane or pasture, and when the wood is all cut in stove lengths as it should be, and well seasoned, it is thrown on a wagon and carried to the wood house and neatly piled.

There is nothing like a good green turf around farm buildings to prevent dust from being blown into the parlor, kitchen or dairy room. On a dairy farm, neatness can hardly be carried to an extreme. The stables, the yards, and the rooms used for keeping the milk and making the butter or cheese, cannot be kept too clean. The yards should have suitable drainage, and be provided with dry walks for the attendants. The stables cannot be kept either clean or comfortable without plenty of bedding or a liberal supply of sand, loam or muck dried and stored under cover, to be used freely at all times as absorbents; while with these, a stable may be kept in such a condition that the dairy farmer may not be ashamed to receive his friends or customers at any time.

Some people object to hauling sand or muck to be used in the stables and yards because of the expense. I do not think the danger lies so much in the direction of doing too much, as towards doing too little. I consider a room near to the stable when a six months stock of dry earth can be stored for daily use, one of the best investments a farmer can make. It en-

ables him to save all the liquid manure from his stock, and at the same time keep the stables in a decent and presentable condition at all times. There can be few sights more disgusting to those who buy their milk, than that of seeing a filthily dressed man sitting down in a wet dirty, slippery stable to milk a cow that is soaked in her own filth. It puts me out of all patience with farmers who allow themselves or their men to be so slovenly as to milk a cow in the stable till after it has been cleaned and purified by the use of some kind of absorbent. Then to promote *personal* cleanliness, an extra suit of loose clothes should be kept in the barn that can easily and quickly be drawn over those usually worn. Various accidents are liable to happen during the operation of milking, which endanger clean clothes. One should have a loose blouse to protect the arms and waist, and a pair of pants or overalls for the body and legs. If these, instead of being sewed on the outside of the seams of the legs are left open and supplied with buttons, they can be drawn on or off over the boots much more easily. House painters and nearly all mechanics have suitable outside garments that they wear while engaged in work, that are laid off before coming to the table. If farmers would take as much pains to keep *themselves* clean, they would really respect themselves and would be more respected by those who now call them the "bone and sinew" of the country whenever their votes are wanted.

A. W. CHEEVER.

Sheldonville, Mass., Jan. 24, 1871.

For the New England Farmer.

OBSERVATIONS AND EXPERIMENTS.

The Past Winter—Decline in Prices—Experiments with Muck, Lime, Phosphate, Ashes and Salt, composted—Agricultural Colleges should teach Farmers to make Manure—Instability of Prices of Farm Products.

It being the season of the year for frogs to peep and for other signs of spring to show themselves, this communication of mine may be an additional evidence that spring is in fact on hand, even up here in old New Hampshire.

Well, among other things, we have had a mild winter; not a week of good sledding. People have run sleds and sleighs a good deal, but principally on frozen ground. So you see that, as usual, it has been hard sledding with farmers. Hay and potatoes were sold for fair prices in the fall, soon after harvesting; but the weather being moderate, and with the help of wise men, of whom we always have a large crop in the city and village, soon knocked them all *flat*. Hay, which has been asleep all winter, is wakening up a little; and, as the new crop now looks, we should not wonder if buyers waked up before long.

In regard to our experiments last season

with phosphate, lime, muck, ashes, &c., I must report that it proved nearly a failure. It was not the fault of the land, for it was as good corn land as there is in Marlow, and it yielded about one ton of hay to the acre the year before planting. It was broken up in the fall, and was well rotted, and in fine order last spring when we planted. The corn came up evenly and nice, and looked well until the last of June. We gave it one good hoeing, but it did not grow. At hoeing we put ashes on some rows, phosphate on some, good rich vegetable mould that was dug up from under the hog yard, that had a rotten plank floor; but none of it, with the exception of a few hills, or a few stalks in the hill, occasionally, answered our expectations.

We made a compost manure of twenty loads of muck, one cask of lime, two casks of phosphate, three barrels of ashes, with about one and a half bushels of salt, all well mixed together, of which we applied one-third of a shovelful to the hill.

We spread no manure on the ground. On about one acre of the piece we put in a light shovelful of manure from the cow and ox stable, and put in each hill one large spoonful of phosphate, covering it with dirt, and dropped the corn. No other manure was used on this piece, and we had fair corn. It was hoed but once.

In some rows I did not put in anything; others phosphate only; others, salt only; others, only the composted muck. At harvesting I could not see much difference in the rows thus differently treated. The rows with nothing in them were a little the lightest. The fact was, it all wanted hoeing again; but haying came on, and it was impossible to raise help to do it.

One thing I noticed, some hills would have four good large ears of corn and some only one; but all had some sound but small ears. The field contained nearly three acres, and it gave me 100 bushels of good sound ears of corn, more than one-half of which grew on the piece manured, as stated above, with stable manure.

Around the whole piece two rows of potatoes of different kinds were planted in the compost manure. Some kinds did well, but the Davis Seedling filled the hills with strong roots and runners in every direction, and it required a man's strength to pull up a hill, raising dirt and all, but there were few good potatoes.

Thus I have endeavored to give you my *experience*. You see the result. I think the failure was owing partly to the dry season, but I do not think if the season had been good that I should have been entitled to a monument quite as large as some piles of potatoes or corn that I have seen. But farmers do not expect to get monuments. With them it is out of the question. Such things are for

great warriors, statesmen, and scientific men. We have no laboratories except our potatoe and cornfields, and no knowledge of chemistry. But we are taxed, the nation gives land and the rich give money, to found colleges for rich men's boys to be educated in, that they may be learned and wise. But where shall the farmers look for the knowledge of chemical or other combinations of materials to make a good and cheap manure, unless to our Agricultural Colleges. They have all the means, time, and money they want. I think the patent manures we have now on hand come too high, and they are too uncertain to be profitable for farmers to use to much extent.

I think Dr. Nichols helps us some. He says he can raise good crops with 24 loads of manure to the acre. With that we can all do very well. But when we attempt to increase our crops by patent manures we generally fail. And perhaps it is well after all that we should fail. Were we able to double our crops, or even to make any considerable increase in their amount, would not their market value decrease in just about the same proportion? Look at the facts. Last fall potatoes were said to be very light, with the exception of some favorable situations, and people made up their minds that they must pay a good price for them, and early in the season they were willing to pay 70 to 75 cts., but the wise heads in the villages made people believe that the country was full of potatoes, and down they went to 35 to 45 cts. So with hay. In the fall it was worth \$20 to \$30, per ton, and would have gone higher if the winter had been an ordinary one. It is so with every thing a farmer raises. Look at maple sugar. It goes from seventeen cents a pound down to nothing—don't want it. There appears to be no intrinsic value to anything a farmer can raise. We want a balance-wheel on the system, so that the machinery will run a little more steady.

We are often told by dealers that the market price of sugar is not affected by the maple crop as much as the Connecticut river is affected by a flood in some little trout brook that happens to run into it. This is when they have other sugar to sell. But when we have sugar to sell, an abundant crop affects the market at once. Does this apply to other trades and other kinds of business? If a large invoice of merchandise arrives in any of our cities or towns do the farmers get together and congratulate themselves that now goods will come down to mere nothing? Or is it so with the manufacturer or any other trade but the farmer? Then the price demanded for labor affects us more than any other class of men, for we cannot combine to affect anything, and we are too poor to think of retaliation. As Solomon said, "the destruction of the poor is their poverty." So three-fourths of the farmers have neither

money nor friends to help them out of the mud and mire. P. T.

Marlow, N. H., May, 1871.

For the New England Farmer.

DRAINAGE OF WET AND DRY LAND.

In your weekly issue of the FARMER, April 29, a "Fireside Farmer" uses the following words in his communication: "I make, and will uphold the assertion, that there is no description of arable land, however situated, or whatever constituents it may have, that cannot be profitably improved by draining."

I have had, Mr. Editor, some experience in draining some kinds of lands in a small way during a period of more than forty years, not in the "fireside style" however, but using the tools necessary for that kind of work with my own hands. I drained a piece of swamp land a few years ago which was so wet and miry when I commenced on it, that I found it very convenient to dispense with my cowhides altogether; to roll up the bottom of my pants to my knees, and my shirt sleeves to my elbows, and not have any half-way work about it. Though the labor was severe, I succeeded by perseverance, in draining the water off to the depth of about five feet, by means of a main drain, and other cross drains. I now have a mowing field that yearly produces a large crop of fine English hay. I have also an abundance of peat muck accessible at all times to draw upon for making compost manures, where before was nothing but a wet, miry, barren swamp.

I have also a piece of what was once a wet upland that I have greatly improved by laying an under drain through the centre of it, constructed of small stones put in a ditch and covered over with soil.

Thus far, I cordially agree with your correspondent, and believe that all kinds of *such* wet lands may be greatly improved by draining. It takes the surplus water off that fills up the pores of the soil of such lands in its natural state, and lets in the light, the rains, the air, and the frosts, and makes the land warm, light and friable, and, with proper tillage, very productive.

But when your correspondent comes to other kinds of land, such for instance as I cultivate, on which I have grown very satisfactory crops of corn, potatoes, rice, oats, clover, herdsgrass and redtop hay for a great number of years, and tells me that such lands can be improved by draining, I cannot but doubt, very seriously, the correctness of his assertion. It is not in accordance with my experience in the tillage of lands where you will have to dig down all the way from three to fifteen or twenty feet to come to standing water; where the water never stands on the surface of the land except for a short time and in some depressions, and after a rain or when the snow is going off in the spring. In reading this part

of your correspondent's assertions, I suppose I felt some as the boy did whose father, for some misdemeanor or other, was giving him a flogging, and who cried out, "Stop dad, let's argue," for, really, I think I had rather argue a little by the "fireside" than take my draining tools and go to work on such a dry field.

Now, Mr. Editor, I will turn back to that piece of swamp land or to the wet upland field, or to both, for an example. I will suppose, that instead of the numerous drains I was obliged to construct to drain off the surplus water, in either case, I could have gone down to the lowest point in the bottom of that old swamp, or the wet upland mowing, and by some Yankee device have cut a channel for the water to drain off, direct to China, or into some lower strata of the earth, so as to have lowered the water to the same level that was done by the horizontal drains, would not the same object have been attained and the same benefit secured by such perpendicular drainage? I believe this cannot be doubted, nor that the air, the light, the rains and the frost, would act as favorably on the soil in one case as in the other; and drained by the last method those fields would be in precisely the same condition in regard to drainage as those other tillage lands I have referred to, where the water never comes near the surface, and consequently cannot be improved by drainage. This makes out my case, I think.

But both might be greatly improved, according to the texture of the soil, either by deep or shallow ploughing, top dressing, or ploughing in manure. These topics would form, in my opinion, very proper subjects to discuss in the papers and at farmer's gatherings.

But of course the *perpendicular* drainage I have alluded to above, is all visionary. That Yankee is not born and probably never will be, who will be able to invent a way whereby the bottom of many of our old wet and barren swamps and uplands in New England, may be tapped and the surplus water easily and cheaply drawn off, in a perpendicular direction downward. But, fortunately, nature has done for most of our lands just what is needed to be done to the small portion of them in which water stands too near the surface.

ROYAL SMITH.

Millington, Mass., May 5, 1871.

COOKING FOOD FOR STOCK.

Most farmers cook the food for their fattening swine, and many agricultural writers have advised us to steam our fodder for all farm stock. But so far as we are informed there are but few either in this country or England who have adopted this plan. In an essay on this subject by George Geddes, published in the *New York Tribune*, the following statement is made of what he saw and learned by

a visit to the farm of Mr. B. A. Avery, near the city of Syracuse, N. Y., who has for four years cooked the food for a stock averaging 115 animals, 60 of them being cows, 15 horses and 40 young cattle. The statement embraces facts in relation to average yield of milk per cow, &c., which we think will prove interesting, aside from those which bear on the subject of cooking the food.

General Appearance and Health.

The stock is in very high condition; Mr. Avery says some of the cows have too much flesh to give the most milk. Many of the cattle are better beef than much of that killed as such for city use.

To these important points I gave much attention, and learned that there had been but two deaths on the farm in the last four years—two very old cows having died—as Mr. Avery says, "they were milked to death." They would not fat, but turned their food into milk, became poor, feeble and died. He says that for the four years during which he has fed cooked food all the winters, he has had no milk-fever, which was quite common before he cooked the food, and no young cattle or horses have died within the four years. This shows that cooked food does not destroy the health of stock.

Yield of Milk.

As Mr. Avery sells his milk by measure, this is to him a point of great importance. He gave me exact figures. His cows are not large; the young ones are from Ayrshire bulls, and some of them show quite high breeding. He disposes of the older cows at the rate of about ten a year, putting in their places two-year-old heifers of his own raising; thus one-third of his cows are two and three-year-old, and not yet up to their best age for milk. The average yield per day of each of these sixty cows, is for the whole 365 days in the year, six and a quarter quarts, which is 2281½ quarts for each cow for the year—or 136,875 quarts for the whole 60 cows. Before he cooked the winter food the average was nearly one quart less than it is now to the cow for each day. This gain is principally in the winter, when milk brings its best price. It is not all in the winter, for the condition of the cows in the spring is so good that the summer yield is somewhat increased. But giving the cooking the credit of producing an increase in the year, for each cow, of 300 quarts, whatever that amount of milk is worth, it is so much gain.

The yield of milk of Mr. Avery's cows will doubtless be considered small by persons who do not take into consideration all the facts in the case. As has been stated, ten two-year-old heifers are every year put in place of ten cows rejected for various causes from the herd. So the stock is kept entire without

buying, and a surplus to sell every year of ten cows. Commonly a cow is not at her best for milk until she is five years of age. *Thus one-half of the whole herd consists of growing animals.* Winter milk being of so much more value to sell than that produced in the season of good pastures, it is important to have a large part of the herd drop their calves in the fall of the year. Proper allowances being made for all the circumstances that make up the whole economy of a milk dairy, I think Mr. Avery's average yield of milk is a good one. Testing this matter by tables given by Mr. L. B. Arnold in a valuable article lately published in *The Tribune*, entitled "Grain Raising vs. Dairy Farming," we find that Mr. Avery's production of milk is fully equal to the yield of what Mr. Arnold calls dairy farming. He gives 400 pounds of cheese as the annual production of a cow. Five quarts of milk will make a pound of cheese, and the 20 pounds of butter that he credits the cow with in addition should be made from 12 quarts of milk to the pound. Thus we have 2000 quarts for the cheese and 240 quarts made into butter, in all 2240 quarts, which is just 41½ quarts less than Mr. Avery's average. Mr. Arnold, in his estimate of a butter dairy, gives 160 pounds as the average annual production of a cow. Mr. Avery's cows would make, at 12 quarts of milk to the pound, 190 pounds of butter.

I am satisfied that Mr. Avery's average production of milk is a large one, though much larger stories are often told by men who do not, as Mr. Arnold does, know all the truth in regard to what large dairies of cows are capable of doing.

Cost of Cooking.

One more man, or large boy, is required on the farm during winter than was required before the food was cooked. To the cost of this boy must be added use of machinery and fuel to make steam. All of these items are not estimated for the six months of cooking food at more than \$250. But Mr. Avery says he has fully determined in his own mind that there is a saving in quantity of food consumed equal in value to the payment of this expense, and besides a saving of \$10 for each of the 115 animals fed. This is, in all, \$1,150 to be added to the value of increased yield of milk, not less than 18,000 quarts in the year.

Mr. Avery showed great care in making these statements, evidently desirous to keep within the limits, lest some one might be misled, and he verified his calculation as to the saving in food, by saying that the average amount paid out for food, not raised on the farm before cooking was adopted, was \$1,800 per year, which by cooking had been reduced to \$1,000, and that now he had fifty tons a year of hay to sell, whereas before cooking he had none to sell, consuming his whole crop on the farms.

That is to say, he supports on 200 acres of land, besides raising a little grain to sell, 115 head of farm stock, buying \$1,000 worth of food in the form of brewers' grains and shorts, and selling fifty tons of hay. He sells the old cows and brings up ten calves each year, thus keeping his stock good at the cost of the farm. Our Herkimer County friend, in his article on dairy farming, I think, asked for 200 acres of land to sustain a dairy of forty cows.

I consider Mr. Avery's management a great success, and will now give

The Method of Cooking and Feeding.

A small brick building holds the boiler to make the steam, which is carried in an iron pipe under ground about fifty feet to a four-horse power engine in the barn, that drives a machine for cutting stalks, straw, or hay. This machine cuts the stalks into lengths of from one to three inches, and *mashes them*. The exhaust steam is carried by a pipe into the cooking-box, which is placed on the floor of the room, directly under the cutting-machine. The exhaust steam is introduced into the steam-box at the bottom, and passes up through a false floor made of narrow slats into and through the mass of food to be cooked. The steam-box is ten feet long, eight feet wide, and 6 1-2 feet high, made of plank, strongly clamped, and having close joints.

The forage is prepared, after being cut for steaming, by wetting every five bushels of cut stalks or cut hay with fourteen quarts of water, and mixing with these five bushels one-fourth of a bushel of shorts.

The pressure of the steam at the boiler, when using the engine, should be sixty pounds to the inch, and then the exhaust steam will do the cooking well. *When steam is used for cooking only, thirty to thirty-five pounds to the inch is better than a higher pressure, says Mr. Avery.*

Immediately after dinner (noon) the engine is started and cutting stalks or hay commences. When enough is cut for a day's feed, the fire is no longer replenished with coal, but is allowed to go down, making steam for some time which is let into the box of cooking feed—which will remain hot till the next morning, say eighteen hours, when the box is emptied by feeding out its contents, and again the box is filled from the cutting of the day before.

Feeding.

There is a door in the side of the steaming-box, which is opened, and the hot food taken out and carried in baskets to the mangers of the cows—they having been turned into the yards in sufficient time to have the stables cleaned, and all the orts (coarse leavings of the manger) of the day before taken away, and fed to the young stock and horses. When the cows are let into the stables they eat the hot food then before them with avidity.

Twice during the day dry hay is fed to these cows, which they also eat with a relish. The

milking is done in the stables—the cows being fastened by short chains to round posts. The cows stand thus fastened until they are turned out the next morning while the cleaning is done, and are made to eat all they will during the whole day.

Treatment of Calves.

The calves are selected with care, and are only fed milk until the milk of the mother is fit to sell. After this, the condensed steam which is under the slatted floor of the steaming-box, in the form of water, strongly loaded with the juices of the cooked food, is used for calf feed, having been strengthened by cooking with it corn meal, well salted. If there is any tendency to relaxed condition of the bowels, strong coffee is given, and great care is taken not to allow calves to run on the fresh grass produced in meadows after they have been mowed, as this rowen, Mr. Avery says, is to be avoided if the calves are to be kept healthy. Mr. Avery's farm has considerable low land that never suffers from drought, and thus he has green pastures every summer, and is not under the necessity of providing for soiling in droughts.

All things considered, I think Mr. Avery has avoided extremes, and made as successful an attempt to avail himself of the advantages of cooking food for farm stock, and at the least cost, as any that has come under my observation.

Fairmount, N. Y., April 19, 1871.

FARMERS' WIVES.

The farmer's wife has plenty of hard work to do. We all know that. She has plenty of dirty work besides. She cannot fold her soft white hands, and sit in her elegant parlor and await a stream of fashionable callers, No! Farm life means work—hard, rough, continuous work. It means something else, too. Let us see.

First of all the farmer's wife lives much in the companionship of her husband. She has him, body and soul. To her he can bring all his vexations and cares. She can understand them all—can sympathize with all. The day's work done, how sweet the twilight hour, the evening converse! There is time for interchange of thoughts and feelings. Husband and wife are partners in all business relations, and can fully understand each others' cares, trials, and perplexities.

Very different is the case of the merchant or the professional man. There is no partnership here. Day by day the husband enters the lists in the keen competitions of business, anxious to gain wealth or honor that he may thereby gain wealth. He only cares for the money, so that his wife may spend it. She does not understand his business—cannot understand it. So their paths in life diverge. They have few interests in common. The beautiful dreams of "united hearts and hopes,"

which maidenhood revels in are forever unfilled, and the married pair go on in separate paths to the end of their journey.

The farmer's wife has also the companionship of her children. In the farm house there is plenty of elbow-room for the little ones in their mother's presence. They can go with her wherever she goes; she can always listen to their prattle, can direct their first efforts at thinking and doing. No "kindergarten" ever invented, presents so good a school for the little ones, as is afforded in the farmer's home. Could some hard working farmer's wife who is discouraged at the difficulties of her post, once step into these city palaces, and see how utterly impossible it is there to afford children the development, physical and moral, they ought to have, she might be reconciled to her lot of seeming hardship.

Lastly, the farmer's wife is sure of the future. The house she has labored so hard to beautify and render comfortable may, in almost every case, be hers till she removes to the better land. No fear of a turn in business, or an adverse wind of popular disfavor which shall in a moment reduce her to penury. No! the small accumulations are, in all human probability, never to be suspended. The quiet little stream will continue its course, not like a "Summer fountain dried when our need is sorest," but, fed by springs that heaven opened up when the foundations were laid for this solid earth, when seed-time and harvest were ordained, — it will grow deeper and broader till lost in the boundless ocean. Think of these things, my good lady, and don't complain of the toil, the dust, and the roughness of your rural life.—*Western Rural.*

THE SORE HEAD IN POULTRY.

I notice in the March number, a cure for "Sore Head" in Poultry, and desire to give your readers the benefit of a remedy which has never failed me.

In the absence of a better cognomen, I have called the disease the "swell head." The first symptoms are a watery and frothy collection of matter in the eye, often accompanied by warts or sores on the head. If not attended to, the formation, a white, tough matter begins inside of the eye lid, and always below the eye, accompanied by considerable inflammation. The swelling increases rapidly, frequently extending to the inside of the throat, which becomes ulcerated. The fowl becomes blind in one, or both eyes—as the disease sometimes attacks only one eye at a time—and death ensues. The disease is highly contagious, and frequently sweeps the poultry yard, if not arrested. I have never failed to cure a case even when the fowl's eyes were completely shut, from the swelling. The frothy matter first collects in the front or outer corner of the eye, then to some extent impairing the vision, which will be perceived

by the fowl striving often to wipe it away on its feathers.

Poultry thus affected should at once be placed in a coop by themselves. Make a strong brine in an old cup, or some other suitable vessel, and wash the head at least twice a day, using a soft rag. Suffer the brine to go into the eye, as it seems to arrest the formation of the hard tough matter alluded to. It sometimes occurs that this formation has already taken place before the disease is discovered. In such cases I sharpen a piece of chip, and by carefully inserting it between the eye and the lid remove it entirely. If not removed by an operation, though the eye become cured, there will always be an unsightly protuberance. If the head and gills have warts on them, the scabs should be removed by the finger nail, or by a pocket knife, previous to washing. I do not remember of ever losing but one case, under this treatment, though I have often had to feed them by hand for two or three days, on account of blindness from swelling; and this case was so far gone when I took it in hand, that ulcers had formed in the windpipe. In addition to the above treatment, the nostrils must be kept free of matter by pressing with a rag outward along the beak.—*H. D. McMillan, in Rural Carolinian.*

For the New England Farmer.

PLASTER---MUCK---PLOUGHING IN MANURE.

I see by an extract from the *Maine Farmer* that "W. S. N." is looking for light on the subject of Plaster on sandy soils. Perhaps I can throw a few rays on his path, and perhaps not, by relating a circumstance which took place several years ago in this county.

A Mr. Scott, (I do not give true names,) owned a farm of which the mowing and tillage was sandy and sand, underlaid by coarse gravel and stones, and rather inclined to leach. Long continued cropping, without adequate returns, had so exhausted the soil that twenty-five acres of mowing cut no more than twelve or fifteen tons of hay or fodder of rather poor quality. So Scott said publicly, "I'll fix the old place and shave some fool when I sell." Consequently he purchased and applied some 300 to 500 pounds of plaster to the acre (broadcast,) the effect of which was, when haying came, there were from one to two tons to the acre, of nearly clean timothy. Scott knowing that one Carter, in an adjoining town, wished to purchase a farm, called upon and induced him to examine his place while the crops were growing. Carter, who had worked on clay land, came and was in ecstasies at the idea that sandy land would grow grass to that extent, and purchased the farm, paying certainly a third more than its real value. Scott gathered his crops, sold them off, gave possession the coming spring and left.

The first year after entering upon his new farm, Carter cut perhaps 1500 pounds of hay to the acre, and the next, 1000 pounds, or so, and in four years, eight or ten tons were all that could be procured on the entire premises.

By the above I am of opinion that it will not pay to apply plaster on sandy land and sell the produce; still, I am inclined to believe that, judiciously applied and the product carefully worked up for manure and returned to the soil, plaster will in the end benefit all dry, thirsty soils, in this section. At any rate, I have just about such a soil as I have described and am intending to use 1500 or 2000 pounds of plaster this season, on eight or ten acres.

I should be very much pleased to see double the amount of agricultural matter in the *FARMER*, and you may consider this as my first contribution towards the extra page, which I hope the proprietors will be compelled to furnish in order "to keep the docket clear." I want this, if for no other reason, to drum the idea into people's minds that muck will benefit land. I have been digging a little this spring, have applied some to potatoes in the hill, the rest is going into the barn-yard and pig pen to be worked over. "Some of my neighbors say *that* black stuff will sour and spoil your land." I tell them I am going to sour the entire farm before I quit.

Allow me to say a word in regard to ploughing in manure, and I will stop. I have derived great benefit by ploughing under long, strawy manure on dry sandy upland, at the rate of 35 two-horse loads to the acre, and have obtained 250 bushels of potatoes per acre, where two years before I did not cut over half a ton of hay, and the year before that only 15 bushels of India wheat. Still I should apply all fine manure to the surface and harrow thoroughly, if I was looking for one good crop, and then part of another.

JONES.
Addison County, Vt., May, 1871.

HEAVES IN HORSES—A "Veterinarian" writes the *Rural New-Yorker*:—"Heaves are caused by the enlargement, and often rupture of the air cells of the lungs, and are incurable; for no medical skill can rebuild or repair the broken down structure of the lungs. Much can be done for the relief of the animal, however, by the feed, which should be nutritious, and lie in little compass, as bulky feed distends the stomach and presses upon the lungs. Plenty of grain and little hay, with the dust well shaken out, and a little water sprinkled on, with steady work, or exercise, will do as much to relieve the horse, and make him useful, as anything."

—A lady in Dorechester, N. H., during the illness of her husband this spring, tapped their sugar orchard, cut her wood, gathered the sap, and made alone four hundred pounds of sugar.

SHEEP AND MUTTON.



SINCE the introduction of pleuro-pneumonia and the foot and mouth disease among our domestic cattle, there has been an unusual demand for good mutton. When the latter disease was announced as existing among us, even though only in a few locations, we were informed that the sales of beef fell off by a very large percentage, and that the demand for mutton rose in about the same ratio. This change has made many people acquainted with the qualities of mutton, who have heretofore entertained a strong dislike for it.

The benefits derived from the culture of sheep are certainly co-equal with those which we gain from the use of any of our domestic animals—the ox, the cow, swine or the horse. Great as are those which spring from the cow, that is sometimes the principal support of the family, quite as important may be obtained from the sheep, by its flesh, its wool, and its prolific powers.

For the wonderful advancement of New England, which, in a little more than two hundred years, has sprung from the wilderness to one of the most wealthy and intelligent districts in the world, we are greatly indebted to the sheep. The element of prosperity which they have afforded has been mainly their wool for the manufacturer,—not their flesh for the family. The use of mutton, however, has been steadily increasing, as our people learn that it is not only a most healthful and nutritive article of diet, but is acceptable to the taste.

According to the census returns for 1870, there are upwards of *thirty million* of sheep in the United States. Vermont having 997,000; New Hampshire 620,000; Maine 501,000; Massachusetts 119,000; Connecticut 118,000, and Rhode Island 34,000. The population of the United States in round numbers, is 38,000,000, so that we have a little less than one sheep to each inhabitant. From these facts it would seem that sheep husbandry is inviting for the use of flesh without much regard to the value of the wool.

It is desirable, however, that a breed should be selected which would produce both wool and mutton. A gentleman who has had large

experience both in the production and manufacture of wool, states that in Massachusetts the *long* woolled English *mutton* sheep will be found the most profitable. He adds, the Cotswolds produce good combing wool, good *mutton* and good lambs, and are a profitable breed. If Oxford Downs are preferred, take good care of them and they will make a faithful return. The Leicesters are splendid sheep—none better for wool—few surpass them for mutton. The South Downs are famous mutton sheep. Mr. COLMAN, Massachusetts Agricultural Commissioner to England, said, “in point of symmetry, weight, quality of wool, hardness of constitution, and general profitability to the farmer, he had seen no sheep which equalled Mr. Webb’s South Downs.”

The Leicester and Merino,—South Down and Merino,—and the Cotswold and Merino, produce a wool which is in great demand for worsteds and medium cassimeres. The stock from these crosses will fatten at two years of age, and produce a carcass weighing about one hundred pounds, better adapted to the American appetite than the pure Merino or either of the purely mutton varieties. The lambs, if not quite so large as those produced by the mutton varieties, are sufficiently large to give a good profit, while the wool is quite valuable.

We are glad that the use of mutton has considerably increased among us. This has been greatly owing to the *improvement in the mutton itself*. England succeeds well in her sheep husbandry, because *all the products* of the sheep are in quick demand. Her people consume more mutton than beef. Experiments show that mutton is not only more nutritious, but digests and assimilates with the system more easily than any other meat. A carefully drawn report on the subject says:—

“When our farmers find the demand for good mutton increasing according to their exertions to make it good—that they can raise it cheaper than beef, and that it is better husbandry to get one hundred pounds of mutton from one sheep than from two, then we shall have them cultivating the best breeds of English mutton sheep, to the comfort, profit, and health of the whole community as well as themselves.”

One other consideration which we would urge upon New England farmers, is, that wherever lands are not too costly for extended pastures, none of the domestic animals are of greater consequence to the nation and the farmer than sheep. They can be reared in situations,

and upon soils, where other animals would not live, and at the same time afford a profit. As articles for home consumption and exportation, as fertilizers of exhausted soils, reclaimers of run out pastures, and in other points of view sheep husbandry deserves to be esteemed as a chief branch of rural economy.

AGRICULTURAL ITEMS.

—There have been 200 woolen factories started in the Western States since 1861.

—It is claimed that California will this year be the second wool-growing State in the Union.

—California is expected to produce a very heavy wheat crop this year, the breadth of land sown being fully twenty-five per cent. more than last year.

—It is a fact worthy of notice that very few of the new American varieties of potatoes are grown in England, and that the English varieties are little known in this country.

—The stable manure from the hotels in Ludlow, Vt., and vicinity, has been bought by tobacco raisers in the Connecticut Valley and shipped on the cars.

—A. C. Moore, the most extensive breeder of Poland China hogs in this country, allows his sows to have but one litter a year, that to be dropped in April, May or June. Eight months is as young as he allows pigs to copulate. He thinks in-and-in breeding very injurious.

—The town of Weare, N. H., reports, in the census, a larger value of farm products in the year 1869 than any other town in the county, if not in the State. This town will be recognized as the location of some of the intelligent correspondents of the FARMER. No wonder they raise good crops!

—A successful potato grower in Maine recommends the following mixture to be applied in the hill at the rate of about one-third of a gill each; a cask of lime slacked with water in which has been dissolved half a bushel of salt. To this add an equal quantity of ashes and a bushel of plaster. Mix thoroughly. This will make about five barrels and will be sufficient for an acre.

—A Missouri gardener stated that on the 16th of April last year, when his grapes were in full blossom, there was a severe frost. He supposed his crop was destroyed. But, to the surprise of all, after these fruit buds had been killed, a new set of dormant buds put forth blossoms, and two-thirds of a crop was realized—the vines producing on an average two tons to the acre.

—A fire proof fence can be made by following these directions: "Make a wash of one part fine sand and one part wood ashes, well sifted and three parts lime ground up with oil, and mix them well together. Apply this to the fence with a brush—the first coat thin, the second thick. This adheres to the boards or planks so strongly as to resist

either an iron tool or fire, and is, besides, impentable by water."

—In an article written for the *Ruralist*, John S. Ives, of Salem, Mass., says the only reliable rule he has ever found for determining the sex of eggs is, when the cavity in the largest end of the egg is found to be upon one side it indicates a pullet chicken; when the cavity is on the extreme end a cock bird may be expected; this can be determined by holding the egg before a strong light. Yet this indication will sometimes fail.

—Our correspondent, John Whatmore of Illinois, writes to the *Germantown Telegraph* that the smell of a goat is obnoxious to the nostrils of rats; that the two won't be friends and companions on any account whatever, and that the introduction of goats to one's barn or premises will cause an immediate stampede of all the rats. Being sadly plagued by rats about his house and farm building, he got a couple of goats and had not seen a rat for upwards of two years.

—The young man who will distance his competitors is he who masters his business, who preserves his integrity, who lives cleanly and purely, who devotes his leisure to the acquisition of knowledge, who never gets into debt, who gains friends by deserving them, and who saves his spare money. There are some ways to fortune, shorter than this old dusty highway, but the staunch men of the community, the men who achieve something worth having, good fortune, good name, and serene old age, all go in this road.

—A milk dealer in Springfield lately sold out his route to a green hand in the business for \$750. But the new man soon found that his milk would not go round to all the old circle of customers, and applied to the seller for relief, who gave him the following recipe for making milk, assuring him that with this he would be all right: "Take three table-spoonfuls of molasses, one and a half tea-spoonfuls of saleratus, and three quarts of milk, to twenty-two quarts of water. Add three pints of this mixture to each twelve-quart can of milk."

For the New England Farmer.

CUTTING AND CURING HAY.

In a late number of the FARMER, "W. H. Y." gives some very good reasons for cutting hay early. I should infer from what he says that he would cut it before it was fairly in blossom. He bases his argument in favor thereof on the likes and dislikes of cattle. I hardly think that an infallible or a reasonable guide to go by. You give a child his choice, and nine cases out of ten he will choose pie and sweet cakes, to the more wholesome bread and milk, or bread and butter.

I do not propose to write anything in favor of late cut hay; far from it. I have suffered enough in consequence of it. But many people are crowding towards the other extreme.

I would ask W. H. Y. if he was going

thirty or forty miles on the road, and was to carry a load of fifteen or twenty hundred pounds with a pair of horses, whether he would turn them into a rich fresh pasture, or a rank growth of aftermath, or feed them on rowen, or whether, before starting, he would feed them on good bright nice herdsgrass hay that was cut when just going out of blossom? The team, if the question were left to them, would choose, no doubt, one of the first mentioned varieties of forage, but the experienced teamster would much prefer the latter, as he has learned that a team fed on such hay, is better able to labor, consequently he concludes it contains more of the real substance.

Swale grass should be cut early, the earlier the better. Clover should be cut in the blow, but herdsgrass, in my opinion, should not be cut until the seed had formed, especially that intended for horses that work. I do not believe much in cocking hay, unless it is very heavy. But just get the water out and wilt it a little, and put it right into the mow. If I think it is rather too green, I then sprinkle over every load, or every other load, a layer of old straw that is kept on the beams or scaffold for that purpose, and my hay invariably comes out bright. The straw takes the extra moisture and keeps the mow from burning.

As hay is the most important of all the crops raised in New England, give us, brother farmers, all the light you can on the best modes of securing it. G. H. CRANDALL.

Duxbury, Vt., May 15, 1871.

ANOTHER AGRICULTURAL AND HORTICULTURAL COLLEGE.

Some weeks since, at the suggestion of a correspondent, we made some inquiries in respect to the present condition of the "Bussey Farm," and its relation to Harvard College, and stated in brief the result of our inquiries. The following circular affords more definite information upon these subjects, and shows that arrangements for the establishment of an industrial branch of the college on the Bussey fund, were further advanced than we were led to suppose from the information we obtained, as it now appears that candidates for admission will be examined on the 28th of next September. The following is the circular referred to:—

Harvard University.—Bussey Institution.—A School of Agriculture and Horticulture.
1871-2.

INSTRUCTORS.—Asa Gray, LL. D., Professor of Botany; Thomas Motley Instructor in Farming; Josiah D. Whitney, LL. D., Professor of Geology and Geography; Francis Parkman, A. M., Professor of Horticulture; Daniel D. Slade, M. D., Professor of Applied Zoology; Francis H. Storer, A. M., Professor of Agricultural Chemistry; Nathaniel S. Shaler, S. B., Professor of Zoology; Francis G. Sanborn, Instructor in Entomology; John Trowbridge, S. B., Assistant Professor of Physics; William G. Farlow, M. D., Assistant in Botany; Charles L. Jackson, A. M., Assistant Professor of Chemistry; Pierre J. Boris, Instructor in French; ———, Instructor in German.

The School of Agriculture and Horticulture, established in execution of the Trusts created by the will of Benjamin Bussey, will give thorough instruction in Agriculture, Useful and Ornamental Gardening, and Stock-Raising. In order to give the student a sound basis for a thorough knowledge of these Arts, the School will supply instruction in Physical Geography, Meteorology, and the elements of Geology, in Chemistry and Physics, in the elements of Botany, Zoology and Entomology, in Levelling and Road-building, and in French and German.

The regular course of study, to be pursued by candidates for a degree, will fill three years. The instruction of the first year's course will be given at the Lawrence Scientific School, in Cambridge, and students of the first year must live in or near Cambridge. The instruction of the second and third years' courses will be given at the Bussey Institution, and students of the second and third years must live near the Institution, which is situated in the town of West Roxbury, near the village of Jamaica Plain, about five miles south-west of Boston, and close to the Forest Hills station on the Boston and Providence Railroad.

REQUISITES FOR ADMISSION.—Candidates for admission to the first year of the regular course of the School must be at least seventeen years of age, and must present testimonials of good moral character; they will be examined in Arithmetic, Algebra as far as quadratic equations, English Grammar, and Geography. Candidates for admission to the second year of the regular course must be at least eighteen years of age, and must present testimonials of good moral character; they will be examined upon the studies of the first year in addition to the above-mentioned subjects.

The first examination for admission will be held on Thursday, Sept. 28, 1871, at Lawrence Hall, Cambridge, beginning at 9, A. M.

Any person, who is not less than eighteen years old, may join the School, without examination, to pursue any special course or courses of instruction which he is qualified to pursue with advantage; but such special students will not be regarded as candidates for a degree.

BOND OR DEPOSIT.—[Tuition required in advance and a deposit of \$50, or a bond of \$200, as security for charges.]

ACADEMIC YEAR.—The Academic year begins on the Thursday following the last Wednesday in Sept. (Thursday, Sept. 28, 1871,) and ends on the last Wednesday in June, with a recess from December 24th to January 6th inclusive.

INSTRUCTION.—Instruction will be given by lectures and recitations, and by practical exercises in the laboratory, the greenhouse and the field. Examinations will be held stately, to test the student's proficiency.

REGULAR FIRST YEAR'S COURSE (AT CAMBRIDGE).—The subjects to be taught during the year 1871-72, are as follows:—Physical Geography, Structural Geology, and Meteorology, Prof. Whitney; General Chemistry and Qualitative Analysis, Assist. Prof. Jackson; The Elements of Physics, Assist. Prof. Trowbridge; Levelling and Road-making, Prof. ———; The Elements of Botany, Prof. Gray and Assistant Farlow; The Elements of Zoology, Prof. Shaler; The Elements of Entomology, Mr. Sanborn; French, Mr. Boris; German, Mr. ———.

SECOND YEAR'S COURSE (AT WEST ROXBURY).—Theory and Practice of Farming, Mr. Motley.—Preparation and care of manures and composts. Breeding and care of neat stock, with special reference to the dairy. Breeding of horses and swine. Preparation of the ground for root crops, hay, and grain. The sowing and planting of different seeds and roots for farm use. Field work with ploughs, harrows, and seed-sowers. Harvesting of hay and

grain. Use of mowing machines, hay-tedders, horse-rakes, &c. Examination of agricultural implements. Farm accounts.

Horticulture, Prof. Parkman.—Propagation of plants; the methods of practicing it, and the principles on which they rest. Propagation by seed; by cuttings; by layers; by budding, grafting, and inarching. Methods of obtaining new varieties of fruits, flowers, and vegetables. Horticultural glass-houses, their construction and management. The flower garden;—perennial flowering shrubs and trees; bedding plants; foliage plants; the rose; the lily; the rhododendron; the azalea; the gladiolus, &c. The fruit garden;—the strawberry, raspberry, peach, grape, apple, pear, &c. Nurseries and their management. Manual practice of horticultural operations.

Agricultural Chemistry, Prof. Storer.—Soil, air and water in their relations to the plant. The food of plants;—manures, general and special. Chemical principles of tillage, irrigation, systems of rotation, and of special crops and farms.

Applied Zoology, Prof. Slade.—The anatomy and physiology of domestic animals. Their proper management in health and disease. Epidemics,—their nature, progress, mode of introduction and proper treatment.

Entomology, Mr. Sanborn.—Habits or economy, anatomy and transformations of insects; their embryonic development, and their relations to the surrounding world. Means of controlling or keeping in check the increase of injurious species. Systems of classification. Collection and preservation of specimens.

Quantitative Analysis, Prof. Storer.—Laboratory practice. Methods of analyzing rocks, manures, plants, milk, &c., and of investigating problems in agricultural chemistry.

The third year's course of instruction will be hereafter arranged, and will be given for the first time in the Academic year 1872-73.

During the first year of the regular course the student will be expected to pursue with equal diligence all the subjects prescribed for that year; but during the second and third years the student's course of study, particularly as regards the amount and direction of his manual practice, may be varied at the discretion of the Faculty of the School, in accordance with the student's aims and purposes.

Women will be admitted to the courses of instruction in horticulture, agricultural chemistry and entomology at the Bussey Institution.

FEES AND EXPENSES.—The regular fee for the academic year will be \$150; for half or any less fraction of a year, \$75; for any fraction of a year greater than one-half, the fee for the whole year will be charged. The fees for special courses of instruction are as follows:—For the course on Farming, on Horticulture, on Agricultural Chemistry, and on Applied Zoology, each \$40 for the year; on Entomology, \$20 for the last half of the year; Laboratory instruction in Quantitative Analysis (including the course on Agricultural Chemistry) \$150 for the year.

The tuition fees will be freely remitted to poor and meritorious students.

The other expenses, including board, of a student for an Academic year may be estimated at from \$245.00 to \$302.00.

The teachings of the School will be amply illustrated by the rich scientific collections of the University, and by a botanic garden, a large and profitable farm, greenhouses, propagating houses, and field experiments. The single object of the School is to promote and diffuse a thorough knowledge of Agriculture and Horticulture. For further information, apply to

JAMES W. HARRIS, Secretary,
Cambridge, Mass.

AN INGENIOUS SWINDLE.

The frequent reports of farmers signing what they suppose to be a receipt or an agreement with some unknown travelling agent, and afterwards finding their names attached to a note of hand, seem almost incredible, to those not acquainted with the plausible representations of these sharpers, or who do not consider how liable every person is to be taken in who harbors the idea that there is some easier way of obtaining a dollar than the old fashioned one of earning it. The young person or the old person who is waiting for something to turn up, or watching for a streak of good luck, or looking for some short cut to wealth, is an admirable subject for operation, and when we consider how numerous this class is,—how many are anxious to get a living without work,—we cease to wonder at the success of humbings and humbuggery. The following is one specimen of the means by which farmers at the West have been swindled. Entire, it is a very simple agreement, fair and safe, for a little speculation by which a few dollars can be realized easier than by raising wheat or stock, and is as follows:—

One year after date, I promise to pay A. Sharp or order, Two Hundred and Seventy-five dollars worth of Seeding Machines for value received, at ten per cent. per annum, said Ten Dollars, when due, is payable at Springfield, Ill. RICHARD ROE, Agent for A. Brown.

Witness: JOHN ROE.

But the agent cuts the "agreement" in two between the words "op" and "beaver" in the first line, severing the right hand portion, and he has a perfect note for \$275. He then proceeds to the nearest broker or banker, to whom he offers to sell the note at a discount, on the plea of needing the money. The signer is generally a responsible person, well known to the business men of the village, and the note is purchased. When the note falls due it is presented for collection, and as the signatures are indisputable, the horrified farmer is compelled to pay \$275, when he supposed that he agreed to pay only ten dollars, out of each two hundred and seventy-five dollars received for the right to use a patent seeding machine.

BET SUGAR ON THE COLLEGE FARM.—We learn by the "Massachusetts Agricultural Department" of the *Amherst Record* that five acres of land have been carefully prepared, and the imported sugar beet seed sown. A factory for the manufacture of sugar from this source, will be built on the farm before the crop is ready to harvest in the fall, and the product of the five acres, together with what

outside parties contribute, will probably reach one hundred tons of raw material. Many farmers in the vicinity have interested themselves in this new feature of farm produce, and we hope that the manufacture of sugar from the beet, which has thus far proved unsuccessful in this country, will eventually prove as profitable here as it has done in Europe.

For the New England Farmer.

BOTANY FOR FARMERS.

AN INTRODUCTION TO THE STUDY OF BOTANY,
FOR YOUNG FARMERS, AND FARMERS' SONS.

Every farmer should possess a general knowledge of the science of botany. Especially should young farmers and farmers' sons acquire a tolerable acquaintance with this highly interesting and useful branch of natural history. The excellent treatises of Gray and Wood, to say nothing of other works of real merit, will enable any person of average intellect to become a good practical botanist; and that, without the assistance of a teacher. It is necessary, only, that he devote a considerable portion of his leisure moments to careful study, and examine closely the trees, plants, weeds, and flowers by which he is daily surrounded. Indeed, the time that is wasted, and oftentimes worse than wasted, by most young persons, would, if devoted to the perusal of books on Botany, Chemistry, Geology, Mineralogy, Physiology, &c., make them well acquainted with the general principles of natural science; and while contributing essentially to their mental gratification, bodily health, and the more successful prosecution of their business, would also enlarge and improve their hearts by leading their thoughts from Nature up to Nature's God.

We earnestly hope that what we shall say in this article concerning the first principles of botany, may induce the young readers of the NEW ENGLAND FARMER to avail themselves of the abler and more extensive works above mentioned, and thus become, as they surely can, thoroughly acquainted with this most interesting study.

BOTANY treats of the Vegetable Kingdom. It considers the forms, organs, structure, growth, and uses of plants, together with their history and classification. The VEGETABLE KINGDOM comprises two great branches, or grand divisions,—*Phænogamous* or flowering plants, and *Cryptogamous* or flowerless plants.

PHÆNOGAMOUS PLANTS bear true flowers, and produce seeds having a seed-leaf or seed-leaves. Each seed-leaf is called a *cotyledon*, some plants having one, and some two cotyledons or seed-leaves. In the cotyledon is enveloped a ready formed *embryo*, which is the germ of a new plant. Phænogamous plants include all the higher forms of vegetation, and are naturally divided into two classes or sub-divisions,—*Exogens* or outside growers, and *Endogens* or inside growers.

The CLASS EXOGENS comprises all plants whose stems are composed of three distinct parts—*pith* in the centre, *bark* outside, and *wood* or *woody substance* between the two. All trees, except the palms belong to this class, as do most herbaceous plants of temperate regions. Exogenous plants have *net-veined* leaves, and bear seeds with two or more *cotyledons* or seed-leaves; hence, they are often called *Dicotyledonous* plants. The two parts into which a bean, a pumpkin seed, or an apple seed readily divides, and which form the first two leaves of the young plant are the cotyledons.

The Exogens all grow by additions to the outside,—a new layer being added just beneath the bark each year; and thus the age of the tree or shrub is indicated by the number of concentric rings exhibited by a cross section of its trunk or stem. This class naturally divides into sub-classes,—*Angiosperms* or covered-seeded plants, and *Gymnosperms* or naked-seeded plants.

The ANGIOSPERMS comprise all exogenous plants which bear their seeds in a *pericarp* or seed-vessel, which is the case with all of the plants belonging to this class, except the cone-bearing trees, and a single family of tropical plants.

The GYMNASPERMS comprise those plants which bear their seeds attached to the inner surface of a scale. Such are Pines, Hemlocks, Spruces, Cedars, Larches, and other cone-bearing trees.

The CLASS ENDOGENS embraces all flowering plants whose stems are not composed of concentric layers, but whose woody substance is distributed through the stems in threads and bundles. Plants of this class have *parallel-veined* leaves which surround the stem like a sheath, and decay without falling off; and they bear seeds with only one cotyledon or seed-leaf. Such are the Grasses, Indian Corn, and other kinds of Grain, the Field Lilies, Solomon's Seal, Lily of the Valley, the Palm-Tree, Sugar-cane, Bamboo, &c.

CRYPTOGAMOUS PLANTS do not bear real flowers, nor do they produce seeds with a cotyledon, or with cotyledons; but they produce something analogous to flowers, and are propagated by *spores* instead of seeds. These spores are minute, dust-like bodies, having neither integuments nor embryo, but produce their root and stem indifferently from any point of their surface, instead of germinating from a fixed point, as is the case in phænogamous plants.

This grand division, CRYPTOGAMIA, comprises all the lowest forms of vegetation on the globe, and is divided into three classes, as follows: 1st. ACROGENS, which includes those plants whose growth is wholly or mainly at their summit, as the *Ferns*, commonly called *Brakes*; the *Club-mosses*, or those evergreen, trailing plants found in pastures and woodlands, and often gathered for festoons, &c.,

to adorn our houses, school-rooms, and churches; and the *Horse-tails*, (*Equisetum*.) or those brown, leafless, jointed stems, six or eight inches long, which are found everywhere in early spring, and in those other stems of similar appearance, two or three feet high, which grow near streams, and contain so much *silica* or flint that they are used for scouring, and hence are called Scouring Rushes. 2d. ANOPHYTES, which comprise all the true mosses. 3d. THALLOPHYTES, which include the *Algae*, or sea-weeds and the like; the *Lichens*, or those incrustations and leaf-like expansions found on rocks, trees, and fences, and the *Fungi*, or toadstools, mould and various microscopic plants.

The grand division, PLENOGAMIA, we have already remarked, is subdivided into two classes: *Ecogens* or outside growers, and *Endogens* or inside growers. The seeds of the former having two or more cotyledons, the plants are called *Dicotyledonous*; and the seeds of the latter having but one cotyledon, the plants are called *Monocotyledonous*.

Again, this grand division is divided into one hundred and fifty-six or more NATURAL ORDERS, each of which is distinguished from every other by certain well marked features. These orders are each divided into several GENERA, (the plural of Genus,) and each Genus is divided into several SPECIES, and some Species are divided into several VARIETIES. Examples: ROSACEAE or *Rosewoods*, is the name of an order, in which are twenty-eight genera, according to Hood. The name of the thirteenth genus of this order is *Pyrus*, which contains seven species. 1. *Pyrus Communis*, or the Pear Tree; 2. *Pyrus Malus*, or the common Apple Tree, &c., &c. Of each of these species there are several varieties.

COMPOSITE is the name of another order which contains one hundred and fifteen genera. The name of the sixty-ninth genus is ANTHEMIS, which contains two species, one of which *Anthemis nobilis* or common Chamomile, will be readily recognized by most persons.

UMBELLIFERE is the name of another order which contains nearly forty genera, one of which is named DAREUS; and here we have the Carrot—*Daucus Carota*, &c., &c. But the limits of this article will not permit us to extend our remarks in this direction.

Plants are distinguished as to their term of life, into *Annuals*, *Biennials* and *Perennials*. AN ANNUAL is a plant whose entire life is limited to a single season. It germinates from the seed in spring, attains its growth, blossoms, bears fruit and dies in autumn, as Indian Corn, Flax, the Poppy, Morning Glory, &c. A BIENNIAL is a plant which germinates and vegetates, bearing leaves only, the first season; and blossoms, bears fruit and dies the second, as the Beet, Cabbage, Turnip, Carrot, &c. A PERENNIAL is a plant which has an indefinite duration of life, usually of many

years. Perennials are either *herbaceous* or *woody*. HERBACEOUS PERENNIALS are plants whose parts are annual above ground and perennial below ground, as the Lily, Dandelion, Hop, Potato, &c. WOODY PERENNIALS vegetate several years, and attain nearly their ordinary height before flowering. They are known as Trees, Shrubs, Bushes, &c.

Trees, shrubs and bushes are distinguished as *Deciduous* and *Evergreen*. The former losing their leaves in autumn and remaining naked until the following spring; the latter retaining their leaves and verdure throughout the year. The *Conifera*, or Fir tribe, includes nearly all the evergreens of the North, as the Pine, Hemlock, Cedar, Spruce, &c., &c. Those of the South are far more numerous in kind, as the Magnolias, Live Oaks, Hollies, Cherries, Palmettoes, &c., &c.

The Phanogamous plant in its earliest stages of life is an *embryo*, contained in a *seed*, and consisting essentially of two parts, the *Radicle* and the *Plumule*. After the seed begins to germinate or grow, the embryo extends itself in two directions to form the *axis* of the plant. The *radicle* or root-end grows downward, as if to avoid the light, and forms the root or *descending axis*; while the *plumule* taking the opposite direction ascends, seeking the light, and forms the *stem* or *ascending axis*, bearing the leaves, &c.

The ROOT is the basis of the plant, and serves to support it in position, and to imbibe from the soil the food and moisture necessary for its growth. Roots are of various forms, and are named according to their form, as *tuberosus*, *fibrous*, &c.

The STEM, or ascending axis, with its branches, is that portion of a plant which bears the leaves, flowers and fruit. The stem of the grasses is called the *culm* or *straw*. The stem of a tree is called its *trunk*.

The LEAVES of plants constitute their verdure and beauty, and place them among the most conspicuous and pleasing objects in the scenery of nature. They are also the organs of *digestion* and *respiration*, being to the plant and the tree what the *stomach* and *lungs* are to the animal; and hence they are of the highest importance in the vegetable economy. Leaves are *radical*, when they grow out of the stem at or beneath the surface of the ground; *cauline*, when they grow from the stem; and *ramial*, when they grow from a branch. They are *alternate* when one is placed above another, on opposite sides, as in the elm; *scattered*, when irregularly spiral, as in the potato vine; *rosulate*, when clustered regularly, as in the plantain; *fasciculate*, when tufted or clustered together, as in the pine, larch, &c.; *opposite*, when two are against each other, as in the maple; and *verticillate* or *whorled*, when more than two are in a circle, as in the meadow lily, trumpet weed, &c.

The footstalk or stem, by which most leaves are attached to the trunk or its branches, is

called the *petiole*. This divides into numerous branches called *veins*, which constitute the frame-work of the leaf. They are woody tubes, and convey to and from every part of the leaf, the *sap* or nourishment of the plant or tree. Leaves assume a great variety of forms, and have received names to correspond.

The *FLOWER* of a plant is an assemblage of beautiful leaves, delicately and variously formed, and placed at the upper nodes or joints of the axis or stem. The upper extremity of the flower-stalk is called the *receptacle*. The flower may be, and assuredly is composed of the following members: 1. The *Floral Envelops*, consisting of *Calyx* and *Corolla*; 2. The *Essential Floral Organs*, consisting of the *Stamens* and *Pistils*.

The *CALYX* is the cup-like organ which surrounds the flower, the leaves of which are called *Sepals*, and are usually green, but sometimes highly colored.

The *COROLLA* is the interior envelop of the flower, and is usually colored,—the leaves are called *petals*. The calyx and corolla together, constitute the *perianth*.

The *STAMENS* are those thread-like organs situated within the corolla, and on the top of which are small oblong bodies called *anthers*, which furnish the dust-like substance called *pollen*. Stamens vary in number from one to a hundred or more; but the most common number is five.

The *PISTILS* occupy the centre of the flower. The parts of a pistil are the *ovary* or *germ* at its base, the *stigma* at its summit, and the *style* which connects the stigma and ovary.

The process of *fructification*, or fruit-bearing in plants, is commenced by the absorption of the pollen, as it is discharged upon the stigma or extremity of the pistil. The *FRUIT* of a plant consists of the *pericarp* and *seed*.

The *PERICARP* is the envelop of the seeds, and varies greatly in different plants in texture, substance and form. Examples: The *Glass* or *Nut*, as the Chestnut, Beechnut, Hazlenut, &c. The *Drupe*, as the Peach, Cherry, Plum, and other stone fruit. The *Berry*, as the Currant, Grape, &c. The *Pepo*, as the Melon, Cucumber, &c. The *Pome*, as the Apple, Pear, &c. The *Legume* or *Pod*, as in the Bean, Pea, &c. The *Strobile* or *Cone*, as in the Pine, Spruce, Hemlock, &c., &c.

For further information concerning the vegetable kingdom, we refer our readers to "How Plants Grow," "School and Field Book of Botany," "Manual of Botany," and other works, by Prof. Asa Gray, M. D., of Harvard University; also, to "Class Book of Botany," by Alphonso Wood, A. M., principal of Brooklyn Female Academy, N. Y.

J. H. STEDMAN, M. D.

West Brattleboro', Vt., May, 1871.

—In many parts of the Western States, potato bugs are creating great consternation. The potato crops in several localities are reported as being in danger of utter destruction by these pests.

For the New England Farmer.

APPLICATION OF MANURE.

Much is said and written on the subject of manure and its application to the soil, but none too much, for it is important that farmers should know the best way of applying manure to their fields in order to obtain the most profit therefrom.

I propose to give a little of my experience in this matter, hoping that others more experienced and more capable will do the same, as information is what we want and what we need. About thirty years ago the *Maine Farmer* advocated deep ploughing, as a remedy for land that had begun to fail to produce good crops, and in order to test this theory we spread on the grass ground, at the rate of twenty cords to the acre, new manure taken from the heaps, and ploughed it under to the depth of ten inches, harrowed the ground well, planted to corn, and got a very poor crop. At least two other farmers in my neighborhood pursued the same course, with about the same results. Of course all of us came to the conclusion that manure ploughed under to that depth was about the same as thrown away; for the land did not produce well until dressed on top. Since then we do not plough manure under deeper than from three to five inches and raise as good crops as any others in this section.

As I want to ask some questions, I will tell you how I raised my corn last year. Five years before, twenty loads of manure taken from under my barn shed were put in a pile in this field, where it remained until last Spring, and had become pretty well grassed over. Late in the fall of 1869, twenty loads of manure were put in a pile near the first pile. In the spring of 1870, twenty loads were spread on two acres of ground, which was pretty well run out for grass, and ploughed under to the depth of three to five inches, the ground was then harrowed and furrowed four feet apart. The old manure was taken and put in the hill at the rate of about half a shovelful with about a tablespoonful of Cumberland Superphosphate mixed with the manure, and the corn was planted from the 27th to the 30th of May. It came up and grew finely, and was cultivated and hoed when it was about ten inches high. I did not stir the ground in the hills, as I think it stops the growth of the corn. It was hoed only once, but was kept clear of weeds by pulling them up by hand.

When the corn was about two feet high some cattle drovers were here from Kennebunk, one of whom, on passing the field, said, "Jones, what a splendid piece of corn you have got. What makes it grow so? Why, I have not seen any like it this season; in fact I never saw so handsome a piece of corn in my life. What kind of corn do you plant?"

When I was husking my corn, people, com-

ing along, would say, "What nice corn you have got. What long ears. I must have some to plant. Why, here is an ear 13½ inches long, of good sound corn, well filled out; and here are plenty more 12 inches long, and, look! here are two ears that grew on one stalk that, together, measure, 23 inches, of well filled corn. Where did you get this seed?" My answer was, I got the seed of my friend John Currier, down in St. Albans. He has raised this same kind of corn on his farm for thirty years. The reply was, "well I should like to raise such corn as this if I could." I told them, you can if you have got as good land as I have and don't plough in your manure too deep.

My corn did not suffer any from drought, —not a leaf rolled at all, nor did my other crops suffer much, as you will see from what the yield was:—Wheat 20 bushels to the acre; Barley, 35, Oats 40, Potatoes 200.

Now, what I want to know is, What made my corn grow, if manure is spoiled by being exposed to the sun, wind and rain, or when applied as surface dressing? And, as I plough shoal, and stir the ground no more than is absolutely necessary, why did not my corn all dry up and die as I have seen it in the western part of this State? Why does my land produce nine tons of hay on three acres of ground, if using old manure, shallow ploughing and surface manuring is bad policy?

I have had a notion for some time that a year's supply of wood beforehand, and a year's manure ahead, were both very convenient to have, and as I think, quite profitable.

JOHN L. JONES.

Maine, May, 1871.

SALT FOR THE CORN-GRUB.—The corn crop has several formidable enemies to contend with, and among them is the grub, which sometimes literally destroys whole fields, or damages the crop seriously. One of the best and most convenient remedies—perhaps the very best ever suggested—is the application of salt as soon as the plant makes its appearance above ground, prepared and used in this way: Take one part common salt and three parts plaster or gypsum, and apply about a tablespoonful *around* each hill. It will be found to be a sure protection. The mixture should not come in contact with the young plants, as it may destroy them. This method has been tried over and over again by some of the best farmers of Pennsylvania, Delaware and Jersey, and when properly applied has never failed to be perfectly successful. We hope our farmers, who have reason to fear the depredations of the grub, the present season, will try this mixture, leaving a few alternate rows of corn without the salt, and communicate to us the result. The application also acts as a first-rate fertilizer and will more than pay for itself in benefiting the crop.—*Germanstown Telegraph*.

EXTRACTS AND REPLIES.

TO RELIEVE CHOKED CATTLE.

A reader of the FARMER who was in the office recently said that he had had a good mind to write an article for the paper himself, because he thought he could tell farmers and others who have cattle liable to be choked, of the very best way ever discovered to relieve them. He did not know whether it had been described in the agricultural papers or not, but said if it was generally known, he thought there would not be so many inquiries about what to do for choked animals, as this was a sure, safe and certain remedy every time. Get a piece of new tarred rope, four feet long and about one inch and a quarter in thickness or diameter. Don't wait till Old Brindle has got a potato or a chunk of a turnip fast in her gullet, but get the rope now, or the next time you go to the store. Then with a strong cord or waxed thread, begin, say, two inches or more from one end of the rope and wind it snugly and smoothly to within about one inch of the end and fasten the cord by passing it through the rope, or otherwise, as you can best do it. Then pick or broom up the extreme end until a soft cap is formed, the edges of which will fall over on to the part wound. This is to guard the throat from danger of injury when used to start the obstruction, therefore it should be nicely prepared. This is all the instrument required for successful practice, and now hang it up or lay it away in some handy and safe place, ready for operation. Before putting it into the throat of a choked animal, grease it well with lard or oil, and if faithfully used, a cure is perfectly certain, judging from past success in the most desperate cases that have come to the knowledge of our friend, since he has used such a probang. It is sufficiently flexible to conform to the natural bends of the throat, and stiff enough to remove any obstruction that he has ever known to get into an animal's throat.

HINTS TO FARMERS' WIVES—NO 2.

But first, Mr. Editor, I know of one farmer's wife who has had a pretty broad *hint*; for No. 1 of the above heading was sent to the FARMER full two years ago; and for a year and a half it was supposed to have been consigned to the waste basket, or perhaps used to light the editor's pipe. But last October the Monthly NEW ENGLAND FARMER came to hand containing the identical No. 1!

Now, methinks, I am at liberty to write again, but the time of a farmer's wife is not always at her disposal. However, as the spring months are now bringing an increase of work, I must take a little time and write a word which mayhap will ease the burden of work to some weary sister. Think of the house cleaning, washing windows, sweeping and dusting, taking up carpets, washing floors, carrying water up and down stairs, cleaning closets and attic, where perhaps the dust of a year has been collecting. In all this work nearly every woman wears a dress nearly if not quite touching the floor, and very many wear hoops also. Shall you put me down in your minds as a "strong-minded" woman if I strenuously recommend a short dress, as befitting such work?

There are many in this neighborhood who wear

a short work dress, and they are refined and intelligent ladies for a' that. In washing, churning, scrubbing floors, and in going up and down stairs with both hands full, such dresses are much easier to get round in. There is no dragging in the slops, and the extra weight of dress and skirt thus taken off allows much greater freedom in walking. While gardening, don't ever put on a long dress to work among your flowers. With good stout high shoes and a dress which lacks nine inches of reaching the ground, and a broad brimmed hat, it is a pleasure to work in the garden.

I am aware that very few, perhaps none, will ever give this matter a second thought; but no lady can know till she tries it how much weariness it will save her. E.

May 15, 1871.

REMARKS.—And we know of one editor who has had a pretty "broad hint;" but you must not class him with those who will "never give the matter a second thought." He will remember it as long as he lives. Why, he is so ashamed of himself that he will make any sort of apology that may be demanded that would not compromise his veracity. Think of a lady's offering being pigeon-holed a year and a quarter!—a sensible, well written, pointed one at that! "It was sent full two years ago." That would bring it right into the editorial harvest of articles written during the long evenings of the previous winter. Some of these must be reserved for the editorial drought of summer and fall. Those that are appropriate to any season are laid aside, and seasonable ones, those that will not keep, are "given out." But this apology is not good for a whole year. Your communication, then, must have got into some sly corner,—don't things in your work basket or draw sometimes do so?—and was overlooked. But you say your article came to light in October. It was printed in the Weekly FARMER of September 3. So please give us credit for one month. Every little helps in such a desperate case!

THE HORSE RACE AND THE FARMERS' FAIR.

I am moved to duty by reading the able article of Brother Comings, (I say brother) because both are interested in the same cause.

Who are to blame for our fairs being managed by dishonest and immoral men? No one but ourselves. We have been negligent and idle, and have allowed the fast men to take the reins out of our hands and drive off with our own team. Brother farmers, let us awake and take care of our interests in the future, by managing them ourselves or by employing those who sympathize with us. As the officers of our societies have heretofore been constituted, it has too often been the case that if you spoke to one of them about a change of premiums from fast horses to horses of usefulness, and to the best cattle, sheep, hogs and poultry, or farm produce, his answer has been, "We cannot raise the money to pay the expenses of our society without these attractions."

But are not the necessary expenses of a farmers' fair greatly over-estimated? Dissolve partnership with the whole fast-horse influence, let them provide their own race course, judges' stand, spectators' seats, police officers, &c., &c., and the necessary cost of providing for an old-fashioned cattle show and farmers' fair would be very small. We could have things in our style at comparatively small expense, while our fast friends could expend

as much as they pleased, enjoy their old-fashioned horse race, with its gambling, betting and other "attractions" as they ever have been enjoyed on all race courses.

Now, brother farmers, we must do something more than talk and scold; we must act. Let us turn out at the next meeting of our society, feeling that we have not only rights but duties to discharge,—let us realize that on us rests the responsibility of deciding the character of our annual fair,—of determining whether it shall be an agricultural exhibition or a mere horse race.

I would suggest that no money be expended for a track, as we need none. If we have not enough cash to fence the grounds this year, the exhibition may be free. Let the premiums, however small, be arranged so as to enlist the interest of boys and girls as well as men and women. With the races omitted there would be time to notice the boy with his trained steers, and for his older brother to show his skill in ploughing, and the proficiency of girls and ladies in driving the family horse, and for a more careful examination of the products of the field and fireside—of the farmer's home industry and ingenuity. F. N.

Plymouth, N. H., May, 1871.

COLORADO TEN-LINED POTATO-BUG.

I planted some Early Rose potatoes April 6. They started finely, and up to yesterday they grew finely and were looking first rate; indeed, I never saw any looking better. Yesterday I found hundreds of bugs upon the vines threatening their destruction. I enclose specimens. What are they, and what shall I do to destroy them?

JOSEPH BARBER.

South Bend, Ind., May 15, 1871.

REMARKS.—Though somewhat bruised, and broken in the mail-bags we have no doubt that the Colorado Ten-lined Potato-bug has reached your farm, in its grand eastern march. Sprinkling the vines with white hellebore, brushing them from the vines to be immediately covered by a furrow, are among the remedies that have been tested, but we do not know how far successful any remedy has proved in actual practice and on large fields.

SHOEING HORSES.

One of the modern improvements we do not approve of is "the paring and burning process" as applied to horses' hoofs.

FURNISHING TOOLS.

A correspondent of the FARMER, in recently commending farmers to a careful housing and providing of good tools, takes occasion to observe that when help is two dollars a day,—or something to that effect,—it is important to provide good tools. When we pay a man that price for an ordinary day's work, we look out that he provides himself the needful shovels, hoes or other tools.

Blue Hills, Mass., 1871.

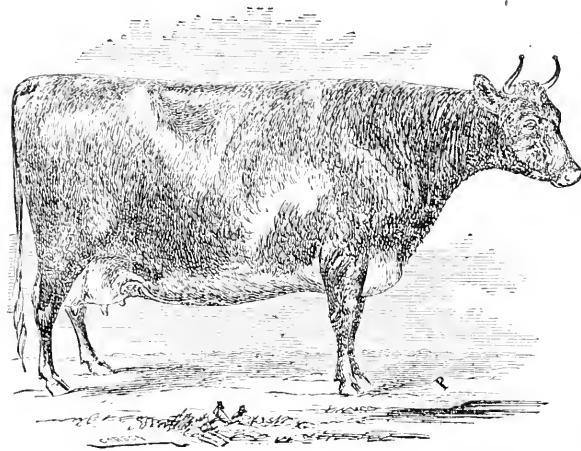
AMERICUS.

AYRSHIRE STOCK.

Some of the reasons why this breed are the best for most New England farmers are the following: They are a hardy race, able to withstand the vicissitudes of our climate and readily accommodate themselves to a warm, well littered stable, or to the bleak, northwest corner of a rickety old barn. They will keep sleek and fat as otters on low land, wire and meadow grass and rushes, where a Durham would get stuck in the mud and pine away in disgust; they rapidly fit themselves for the shambles on hills so steep and high that a Durham would faint away from exhaustion, before getting

half-way up. Yet they can do well on the Kentucky blue grass, and will easily learn to eat the clover and meal required by Short-horns.

I think there is no *one* breed so well adapted to the *three objects*—the dairy, beef and draught—for which neat stock is wanted by the small farmers of New England, as the Ayrshires.



Ayrshire Cow.

As to *quantity of milk* in proportion to the *cost of food* consumed, there is no other breed that can equal the Ayrshires by "a long shot." And as to *quality* they have no equals but Jerseys. As to *amount of butter*, according to cost of food, they are above all others; and to the *quality* of butter, all things considered, they are unsurpassed. Jersey's butter is more "gilt-edged," and may taste better to the *eye*, but not to the *palate*. Possibly the extra *oily* quality of Jersey's butter is the reason of its not keeping well. For the purpose of producing milk for sale or for making cheese, the Ayrshires are "head and shoulders" above all others, according to size and cost of keeping.

The Jerseys are good for cream, but hard to keep in decent order; very difficult to fatten when it is desired to turn them to beef, and too small and frail for oxen. The Durhams are good for beef, with sufficient quantity of the best quality of feed; but third-rate for the dairy, according to size, and too large and "luggy" for oxen.

The Ayrshire can be fitted for beef of the first quality as quickly and cheaply as anything else on hoofs; and for oxen I don't think they can be beaten, judging from their general characteristics of hardihood, energy, ambition, intelligence, docility, similarity of color, vivacity or quickness of motion and good size.

These things being so, it is not difficult to see why there are so few of them advertised for sale compared with Durhams and Jerseys. Those who have with much difficulty obtained this breed for practical use, as I have, like them too well to sell them (unless they sell their farm, get out a score of patents and wish to move to Chicago, like myself;) and those who make a business of stock raising on a small scale find ready customers without advertising.

I have found it just about as easy to sell my pure bred calves for twenty-five to fifty dollars, as to sell "scrubs" of same age for fifty cents, and suppose others have the same experience; and I feel a good deal better keeping a cow that weighs from six to nine hundred pounds, and makes ten to

twelve pounds of the best butter a week, for five consecutive months, than when keeping one of the same size that makes but half as much of poorer quality.

R. NUTTING.

Randolph, Vt., May, 1871.

APPLICATION OF MANURE.—FOLLOWING NATURE.

The subject of manuring or enriching the soil is a very interesting one to me, and I suppose it is to all farmers in New England. Our field crops seek their nourishment in the ground by roots which hide themselves in the earth, and hence I think it is reasonable that manure should be ploughed into the soil. Another thing leads me to favor ploughing in instead of applying it to the surface, is the liability of the most valuable portions of the manure being washed away, where land is liable to be washed. In re-seeding land without other crops, I believe that the amount of manure usually applied to the surface would do better and make the grass hold out longer if it were ploughed in.

The advocates of surface manuring often claim that Nature favors their plan, and say that she always deposits her fertilizing materials—leaves, decaying wood, &c.,—on the top of the ground. But how much force is there in this illustration, were we to admit its literal correctness? This, however, we can hardly

do, when we think of the various ways by which nature mingles the materials of the earth's surface by the washing of water, by the slides and avalanches among mountains, the heavings of volcanoes, &c., by which nature does some pretty deep ploughing and thick covering.

But is not cultivation based rather on artificial than natural principles? Is it not a war against as well as a co-operation with nature? Is not man endowed with capacities and powers which fit him to control and subdue nature? We fell her trees; we grub up her roots; we displace her rocks; change her water courses; hoe up and destroy her favorite plants, and call them weeds. If nature had her course would there be any cleared land, any ploughed ground, any fields of any description; any garments to hide our nakedness; any dwellings or barns for ourselves or our stock?

But if we admit that the top-dressing of our fields is in accordance with nature, does this prove it to be the most economical? See how much of Nature's dressing is lost to the soil to which it is applied,—how much floats off in streams to enrich distant intervals or to be engulphed in the ocean, and how much has been lodged in bogs and swamps for the benefit of other land than that upon which the fertilizing matter was originally deposited. Nature may afford such a wasteful application of manure as this, but I cannot. My resources are not equal to hers. I cannot afford to fertilize distant fields in which I have no interest, but must provide for my own. Hence I endeavor to keep my manure in the soil.

I am trying a number of experiments this year with muck, being encouraged to do so by seeing how completely filled with roots and fine fibres muck is that I have applied to my orchard. I have put some clear muck in the hill for various crops, and have composted some with lime and salt, and if nothing prevents will note the result.

While reading the various opinions of farmers in your paper, I have often wanted to make some reply, but aware of my ignorance of grammar and all the rules of composition, I have never attempted

to do so till now, and perhaps you will think I had better waited awhile longer,—but here goes either for waste basket or Extracts and Replies.

C. L. DRAKE.

SINGING BIRDS.—CURRANT WORMS.—EARLY POTATOES.—FRUIT BLOSSOMS.—MOLLIE JERSEY.

When I am awakened in the morning by the singing birds, and go out into the wonderfully clear air and see the dew sparkling on every blade of grass and tipping every green leaf with a diamond point, I pity those poor people who are confined in the hot dusty city; but when I see currant worms and canker worms, bugs, beetles, moths, millers, and flies destroying and spoiling every thing in their way, I am almost tempted to say I would rather dwell in the city.

But we rather have the upper hands of the currant worms,—the unsightly, green, wriggling things! Last summer, in common with many others, we suffered from fire, losing not only a carriage shop, but also apple and pear trees, grape vines, strawberry plants, and two long rows of currant bushes. The currant worms were revelling in them a few weeks before. They cannot do much at it this year, as the bushes are up only a few inches, having been cut down to the ground in the fall; but the worms will probably make the best of what foliage there may be.

Last year we tried whale oil soap,—the worms grew fat upon it; tobacco soap rather subdued them; strong soap suds were only a grateful shower; and water made strong and dark with droppings from the hen roost had much more effect upon the user than upon the worm. This year we shall try carbolate of lime. They made their appearance yesterday, May 22.

The canker worm has not shown itself as yet, it being too early for them. A few caterpillars are to be found.

Apple trees are not blooming well. Only one, here and there, is to be seen full. Pear trees are blooming better. There is some complaint of their being winter killed. We have two that started well early in the spring and budded profusely, but are now entirely dead. One is a small, the other quite a large tree. What do you suppose the matter is? They were treated in every way like the rest and started as well. Do not know their names, as we also lost in the fire the plan of the pear orchard whereon the names were marked—but think the large one is a winter Nelis.

Peach trees are blooming splendidly, and cherry trees have been a perfect bouquet of white blossoms.

Early Rose potatoes and Breese's King of the Farlies were planted the same day and came up at the same time. Early peas have not come up well, but later sorts are looking finely.

"Mollie Jersey" dropped her calf four weeks ago to-day, having gone dry nine days. She gave a pint of milk when we left off milking her. The calf was a handsome fellow, but, alas, he is in the butcher's hands to-night! We have sold fifty pounds of butter. The cow gave four quarts and a pint to-night. Will try and keep an account of the quantity of butter she makes this year. As for quality it is A No. 1,—“gilt edged,” perhaps. Her September butter is as sweet as a nut to-day.

S. B. SAWYER.

West Amesbury, Mass., May 23, 1871.

P. S. May 24. Last night, we rode from this place to Newburyport, some eight miles. The air was loaded with the perfume of the apple blossoms, and we were much gratified to see the trees blooming so much more fully than with us. If blossoms portend fruit, it will not be so very scarce. We saw large beds of strawberry plants

white with blossoms, and potatoes so large as to make a grand show, having been hoed once.

S. B. S.

REMARKS.—From the sprouting of the seed to the ripening of the fruit, pear trees are subject to failures and decay, especially on dry, light soils. Whether your trees were killed by the drought of last summer, fall and winter, or whether some other cause blighted them, we cannot say with any degree of certainty, but their showing signs of life in the spring and then failing to leaf out fully are no unusual circumstances.

FOUR DEAD HEIFERS.

I have lost four out of the sixteen head of cattle that I took to the barn last fall. They were all heifers that I raised myself. They died very suddenly, having no symptoms of disease that I noticed twenty-four hours before death. All the information that I have been able to get is from a book, “The American Veterinarian,” by S. W. Cole, from which I have been led to suppose that the disease might have been chronic red-water or dry murrain, but the remedies put down in that book have not given me satisfaction. I have eleven now, nearly all of which I think have had the same disease and are not entirely clear from it now, with the best doctoring I could give them.

West Sutton, Mass., May, 1871. N. LACKEY.

REMARKS.—While we sincerely sympathize with our correspondent in the loss of his young cattle, we have no means of ascertaining what the cause may be, as no symptoms are given. If the disease is red-water it would be attended by some very striking symptoms, as the urine would be discolored. A murrain of any kind would present symptoms of a very different character.

As a remedy for red-water, Mr. Allen, in his excellent work on “American Cattle,” says that purgative medicines are the best, and recommends the following:—Mix Castor oil, 6 ounces; Saltpetre, 1 ounce; Epsom salts, 4 ounces; thin gruel, 1 quart.

If the animal is frequently endeavoring to stall, voiding only a small quantity, with considerable pain and difficulty, he recommends mucilaginous drinks,—such as an infusion of flax seed and a decoction of marshmallows, are most likely to afford relief.

Have your cattle had access to fresh paint or any other poisonous matter? The diseases of domestic animals and man are so similar in their character that we think the family physician ought to be more frequently consulted by farmers in case of illness among their stock than is usually done. Especially in cases where the cause of sickness or the nature of the disease is unknown. The questions which a medical man would ask and the examination he would make would probably enable him to give you valuable advice, which from your statement we cannot do.

A GOOD COW DRYING UP.

I have a cow that dropped her calf the first of April, and did well; but within two or three weeks she has commenced to dry up in one of her teats. She does not give one-third as much from it now as from any one of the others. She is a good cow.

I have refused one hundred dollars for her. Can you give, through your valuable paper, any remedy for her case? AN OLD SUBSCRIBER.

Pittsford, N. H., May, 1871.

REMARKS.—Many injuries happen to cows in consequence of their being confined too closely in their stalls. When some are lying down others tread upon them, and especially upon the teats or other portions of the udder, and injure them. In some cases one or more teats are entirely ruined. In the case mentioned, it does not appear that there was any fever or swelling of the part, or any soreness to the touch, so that the cause of a cessation of the usual flow of milk is a hidden one.

Perhaps some one, having had a similar case, and found the cause and a remedy for it, will be able to inform our correspondent what that remedy is. Has the cow been overfed on meal?

BUNCH IN THROAT OF COLT.

About two years ago a lump appeared in the throat of my colt. It appears to be directly under the skin, and is about twice the size of a goose egg. It is about four inches above the brisket, and might be easily moved up to the jaw. After the colt has been exercised freely it entirely disappears, but returns as she cools down. The colt is otherwise healthy and in good flesh. Information as to cause and cure will greatly oblige

Waterbury, Vt., May, 1871. T. HOMSON.

REMARKS.—In commenting on a case which we are inclined to think may be similar to that you describe, Professor Law supposed the swelling to be caused by "distension of the sheaths of tendons, and probably rheumatic," and recommended rubbing with iodine ointment,—one part iodine to twelve of lard. Still we are so uncertain as to the similarity of cause in his case and yours, that we should advise you to consult your family physician if there is no veterinary in your neighborhood. The iodine ointment, with bandages at night, if they can be applied, may be tried with safety.

LICENSE.

Can you inform me whether the license law, so far as travelling dealers in small wares are concerned, has been revoked by the United States Government? Some of my neighbors assure me that the peddling business can now be transacted without let or hindrance; while others declare that he who sells small goods without a license is guilty of a crime second only to that of high treason. Now, I propose to exchange my farm for a peddler's pack, and leave the print of my knuckles on the front door of every house in New England. Can I do so without subjecting myself to the interference of the Federal authorities? Please answer this at your earliest convenience; for I am very anxious—finding farming a most unprofitable calling—to rub out the old score and begin anew.

Middleton, Mass., May 23, 1871. ESSECKER.

REMARKS.—You may try your knuckles as proposed on every door in the Union, and unless you offer liquor, tobacco and such, the Federal authorities will neither molest nor make you expense.

SIDE ORIFICE IN A COW'S TEAT.

I see you don't talk very encouragingly to your Topsham correspondent, who has a cow with a

shaky teat. Now I propose to inform him how I cured a cow of a like trouble.

I had a valuable cow that came to the yard at night with a hole in one of her teats. After drawing the milk, I took a piece of court plaster three-fourths of an inch square (English sticking plaster would probably be better) and pressed it on nicely over the hole; then a strip of cotton cloth of about the same width, and long enough to reach around the teat, and put on a good coat of sticking plaster and pressed it firmly around the teat. It remained for a long time, was no obstruction to milking, and it was a complete success. If the hole is an old one it may be necessary to scarily or burn.

Sarpy, N. H., May 28, 1871.

G. W.

REMARKS.—Thanks for this prompt response.

COMPARATIVE PROFITS OF CORN AND WHEAT GROWING.

I beg to say a word to your correspondent, "K. O.," and to make up a statement of figures in relation to the cost of crops of wheat and of corn. "His friend" raised 78½ bushels of corn per acre, and 36 bushels of wheat.

ACRE OF CORN.		CR.
By 75½ bushels of corn at \$1.25		\$98 12
" stover valued at		20 00
		<hr/> \$118 12
		DR.
To ploughing and manure		\$18 00
" seed		50
" furrowing by horse and man		2 00
" board of two men and team, hauling manure and dunging out		8 00
" board of man and boy, planting		4 00
" weeding and hoeing three times		14 00
" cutting up and getting in corn		5 00
" husking 78½ bushels		6 00
" shelling		5 00
		<hr/> \$62 50

Profit on an acre of corn \$55 62

ACRE OF WHEAT.		CR.
By 36 bushels of wheat at \$2.00		\$72 00
" 10 tons straw at K. O.'s estimate \$6.00 60 00		
		<hr/> \$132 00
		DR.
To ploughing and manure		\$18 00
" 2 bushels seed wheat, \$2.00		4 00
" sowing and harrowing twice		6 00
" harvesting		6 00
" threshing by horse power		6 00
		<hr/> \$40 00

Profit on one acre of wheat \$92 00

Showing a profit of \$36.38 in favor of the wheat crop per acre more than the corn crop, taking the statement of K. O.'s friend as the basis of our calculation. Both crops were certainly very creditable to the farmer, who probably did not count the cost of labor on the corn crop. It shows that it costs about the same to get 30 or 40 bushels per acre as it did 78. In the table of figures, I have endeavored to give statements that approximate the correct cost of raising both crops. They show that cultivated crops are vastly more expensive than small grains. But as K. O. has invited "criticism" and admits that I have "furnished him a text on straw," which he approves and discourses on, yet he would seem to disparage my effort to do some good by adding, "I think that is the only argument of much weight he presents for our consideration."

I did not suppose myself addressing a man of "straw," but the more receptive minds of those farmers of the New England States who are anxiously inquiring into the matter of growing wheat. If K. O. and your farmer readers will review the communication to which he alludes that was published in the FARMER for April 8, they will find statements of facts calculated to encourage the growth of wheat in New England, in addition to

the incidental one of the present value of straw, which it appears to me ought to have much weight with practical farmers, who find their flour money a severe tax, though they may not be worthy of consideration by K. O., or other men of straw. From all directions evidence seems to be accumulating that the impression is deepening among farmers and agricultural journals that "we can raise our own bread." Probably K. O. is yet faithless. The universal rye field may be his admiration. We do not object to this crop, but it is too late to clog or choke down the enterprise of wheat growing at the East. With the rye field we hope to see its fellow crop, the *wheat field*, on every farm. Why not?

With no view to controversy, or desire to proclaim an idea beyond my own experience and full knowledge, I feel that cavilling expressions are not of "much weight," and will be appreciated only at their true value by your many readers.

HENRY POOR.

Brooklyn, L. I., May 11, 1871.

MANAGEMENT OF HEN MANURE.

In reply to Mr. J. Fernald's inquiries in regard to the treatment of hen manure, I would say that in 1868 I took four bushels of dry hen manure, turned it on the barn floor, took a common flail and threshed it to a powder; then took twenty-five bushels of muck that had been dug eighteen months, spread it on the barn floor and thoroughly mixed it with the hen manure. A single handful of this compost was put in the hill, and the corn dropped upon it. I had a splendid field of corn. Planted one row without the compost. That row could be distinguished all through the season, being about two weeks behind the rest of the field, and finally it never did catch up with the rest.

I believe if farmers that keep from twenty to thirty hens would save all the droppings and compost it in the way as above, or in some better way, instead of buying fertilizers as many at the present day do, it would be very much more to their advantage.

JOSIAH PUFFER.

Harvard, Mass., May 15, 1871.

REMARKS.—We wish to unite with Mr. Fernald in an expression of thanks to Mr. Puffer for the foregoing prompt, concise and explicit reply.

CAUSE OF WHITE SPECKS IN BUTTER.

I have ascertained that specks or curds in butter are nothing more nor less than particles of dried cream. I have tested it for five years in the following manner. In turning off the buttermilk from the butter, I drain through a sieve; then place those particles which remain in the sieve in a dash churn, or jar which I have for that purpose, and churn them into butter. It requires more churning than common cream. FROM A FARMER'S WIFE.

Southville, N. Y., 1871.

FATTENING A HORSE.

A horse is a great favorite with me, and I like to see one look well and used well. I will give you my idea of fattening a horse. Before cutting the hay put it in a tight box, wet with warm water and then put on your meal. I think this the quickest way to fatten a horse. Would like to have the opinion and experience of others. I think a mixture of corn, rye and oats is good for a horse.

Keene, N. H., 1871.

H. V. W.

BUGGY PEAS.

You are correct as to the cause of buggy peas. Now for the remedy. The peas that grew in 1870 may be sown in 1872 without any trouble, provided

they are one-fourth of a mile from where there are any sown that grew in 1871. Keeping them one summer and two winters, or eighteen months, kills the bugs. I wish your readers to try this and report the result.

FARMER.

Wallingford, Vt., May 12, 1871.

DEGENERACY OF HORSES.

Horse racing was introduced at the South by some of the old Colonial Governors about one hundred and forty years ago, but for a long time horses were not run for the pecuniary value of the prize offered, but solely for the honor which the planter would secure by the reputation of breeding and training the victorious animal. A saddle and bridle, or a piece of plate, and not a purse or "premium," were the prizes then contended for.

But at the North, horse racing has never been popular. Our leading citizens have not encouraged or patronized the sports of the turf. The judges of our courts have not officiated as judges at the horse race; the men who make the laws for the government of the people do not make the laws which govern the running of horses.

We admit that within a few years past, under the plea of recognizing the importance of the horse to farmers, and of encouraging improvement in breeding, training and developing the powers of this noble animal, something like the horse race has been introduced into the programme of some of our agricultural fairs. We admit also that the influence of this innovation is already wide spread. It has excited a general ambition among farmers to breed for speed; and among the boys to run a skeleton wagon, to wear a jockey cap, and to use the language of the professional trainer.

It is some twenty-five years or more since "the track" and "trials of speed" were introduced on the grounds of our agricultural fairs, for the improvement of horses. What has been the result? A correspondent of the Monthly Report of the Department of Agriculture, in Muscatine County, Iowa, says:—

The raising of horses has been overdone here. We, as a farming class, have been crazy on the subject of speed, and are now reaping the fruits of our folly. Had we a number of years ago entered into the raising of horses for the farm instead of the turf, we would not have the comparatively worthless animals now on our hands—not fast enough to win, nor large enough to work. The majority of farmers are, however, again raising such horses as will always find ready sale. The Percheron is meeting with much favor.

Mr. W. A. Brodie, in an article written for the Rochester, N. Y., *Rural Home*, in speaking of a Percheron horse bought in June, 1870, of the Massachusetts Society for the Promotion of Agriculture, by William A. Wadsworth, remarks:—

"He is a noble animal, and just what is needed here, as working horses have greatly degenerated in this immediate vicinity."

In England it seems that the result of modern racing has been the same. The London *Army and Navy Gazette*, in speaking of horses with reference to the army, says:—

"If our present horse is well-bred, he is as a rule so light and so devoid of substance as to be unable to carry any decent weight; if he is strong, he is so coarse as to be totally devoid of the mettle or courage necessary for a charger."

Professor Ferguson, of the Veterinary Department of the Privy Council Office, Dublin, ascribes the degeneracy of horses to the modern plan of testing horses in short heats and light weights, instead of the four to sixteen miles, and heavy weights of former years, and says:—

"Of late years the distances run are short, and the weights carried but light. Horses are bred accordingly. Speed is the great desideratum; weight-carrying power is not required. As a general rule, power must be sacrificed to obtain an increase of speed."

AGRICULTURAL ITEMS.

—During April the Union Pacific Railroad sold 241,202 acres of land in Nebraska, at an average price of \$4.13 per acre.

—Don't waste the soap suds, but apply them to garden, vines, bushes, evergreens or lawn. They are too valuable to be turned out at the back door.

—Elijah Nye, Esq., of Berlin, Vt., during the past season wintered ten sheep, and has had from them twenty-two lambs, twenty-one of which are now living and doing well.

—A correspondent of the *Maine Farmer* smokes the barrel instead of the hams. Turn the barrel bottom up over a pan or kettle of coals covered with corn cobs. After the barrel is well smoked inside put the hams and pickle into it, as you would before smoking.

—Joseph Harris, of Moreton Farm, near Rochester, N. Y., is ploughing up an oat stubble field, and on the advice of an English friend purposes sowing it with cole-seed and white mustard—to be fed off by sheep next fall—seeding it to clover and grass at the same time.

—If screws are warmed and dipped in melted tallow it will prevent their rusting, and they can always be unscrewed with ease. A large quantity of screws can be greased in a few minutes, and the operation is one which will ultimately result in a great saving of time and labor.

—M. J. Carter writes the *Rural New Yorker* that if those who have crib-biting horses will nail a sheep skin, wool side up, wherever there is a chance for the horse to bite, he will not do very much cribbing in the stable. His father has tried it successfully.

—The *Carolina Farmer* says to destroy the vitality of the stumps of willow trees, peel portions of the bark two or three inches broad from five or six feet up the trunk, down to the ground, in May or June, and a few months after the tree can be cut down without the annoyance of the stump suckering.

—Mrs. Smith, of Enterprise, Missouri, who took a four hundred dollar premium on cotton at the St.

Louis fair, picked the cotton with her own hands. Her husband is a well-to-do farmer, and she is entirely removed from the necessity of hard work, yet she is not ashamed of it, and her industry has been handsomely rewarded.

—The *Utica Herald*, from the present condition of the dairy interest, draws the moral that no large section of country can afford to depend entirely on one kind of crop, but that each locality must aim to supply its own markets with necessities. As the West is now manufacturing cheese and butter for itself, the *Herald* thinks the East must grow its own breadstuffs.

—The *Western Rural* recommends boiling corn on the ear for stock, and says cooking shelled corn has never given us satisfaction. There seems to be a principle contained in the cob, probably the potash, which materially assists in softening the hull in the corn, when submitted to strong and continued heat, rendering it nearly like hulled corn. The water in which it is boiled, what little remains, may be fed with the corn.

THE CURRANT WORM.

Look out for the Enemy—His Skirmi-hers have appeared—Prepare for the Battle.

Every person who saw the foliage of his currant bushes devoured last year, after a hard fought battle to save them, will remember how the crop of fruit was imperilled if not utterly destroyed, and what a sorry spectacle the bushes themselves presented at the close of the season. All will be desirous to find some preventive of destruction sufficiently early to save the crop both of foliage and fruit on their currant and gooseberry bushes.

Many substances were employed last year, the most effective of which seemed to be the white hellebore. It is better to use this than to lose the crop, but there are some objections to it. In the first place, it is a poisonous article, and in careless hands might be the means of much suffering, or prove fatal to human life. In a small way, in private gardens, its cost might not prove burdensome, but where currants are raised for market, it would be objectionable. Again, it is a slow, disagreeable, and tedious task to apply it to the bushes so as to prevent the ravages of the worms. The fly comes from the ground and deposits its eggs on the under sides of the leaves, and at first usually on that part of the foliage near the ground. If the hellebore is sifted on the foliage it must pass down into the centre of the bush quite freely, and cover most of the leaves, or the worms will continue

their work. We made careful use of it last year, and found it efficacious in some degree, but not a certain preventive. Carefully searching for the leaves containing eggs or worms, picking them into boxes and crushing them under the feet, accomplished more than anything else resorted to. But that process was tiresome, and to some is a disgusting one, and unless the bushes were quite vigorous, the leaves could not well be spared. Carbolic acid in solution was tried, but did not prove satisfactory. That is also poisonous, and therefore a dangerous article to have about.

The *carbolate of lime* is another article used to destroy the currant worm. It is in the form of a fine flour, has a disagreeable odor, and we should think would be quite objectionable if any portion of it should touch the fruit. Dr. E. Worcester, of Waltham, Mass., informed the Editor of the *Boston Journal of Chemistry*, that "he tried this powder in many instances last summer, and found that while it was fully as effectual as hellebore, it was less disagreeable, less costly and perfectly safe. The method of using it is to sprinkle it over the vines as soon as the worm makes its appearance. One or two applications was found sufficient. Neither the foliage nor the fruit, he stated, was injured by the carbolate of lime."

Last year the worms appeared with us on the 22d May, and continued until the first of June, though greatly reduced in numbers at the latter date. They came twice afterwards before the middle of July, but not in such force as on the first time.

The Editor of the *Canada Farmer* stated last summer, that he counted on the under side of a single leaf 221 eggs of the *Saw-fly*; the same branch had ten other leaves with about the same number of eggs on them. He thought it safe to say that from this one branch at least 2000 worms would have been produced!

In the *Religious Magazine* for March, 1871, the Rev. E. H. Sears, after relating several experiments to destroy the currant worm, which proved ineffectual, says:—

"Soon after these disastrous experiments I was on a visit to a friend who is an amateur gardener. I was surprised to find his currant bushes green and flourishing and pretty well loaded with clusters, while looking over the fence into his neighbor's garden, the bushes were stripped entirely bare. 'How in the world did you save them?' was a very natural, and in my case a very eager

inquiry. Take a pound of copperas and dissolve it in seven gallons of water, and sprinkle it over the bushes with a watering pot. My bushes were getting covered with the worm, but one application dosed him effectually. I advised my neighbor over the fence to do the same, but neighbor's wife objected, fearing the copperas would poison the currants, and so he sprinkled them with lime; and you see the result. My friend found a second application necessary a few weeks later when the pest re-appeared; and the result was a large and beautiful crop of ripe currants."

As the currant is among our best fruits, we are confident that the space occupied in stating the above, will be well employed.

For the New England Farmer.

FEED FOR MILCH COWS.

Millet—Hungarian Grass—Early Cut Hay—Corn fodder, in connection with Grain and Dry Hay—Variety of Feed—Preferences of Different Animals—Estimate of Profit and Loss of a Dairy—Age of Cows Management of Cows and Calves—Product of Col. Warring's Jerseys and Natives.

In the last FARMER I see that a correspondent from Blue Hills, Mass., thinks my cows have *strange eccentricities*, because they did not seem pleased when I gave them a feeding of dried millet and Hungarian grass. He thinks he would make *beef* of such cows. I can tell him it would not take long to do that.

I finish cutting my first crop of hay about the first week of July. I feed such hay, with as much grain as I dare to, all the year round. I raise no corn fodder for winter use, nor straw of any kind; and do not have more than a ton of poor hay to feed, with thirty tons of the best early cut hay and rowen. Cows fed in that way make beef very easily. I would prefer such hay all the time, if I could raise enough of it.

But as an acre of land, well manured, will produce more feed in corn than in grass, and as grass must be renewed occasionally, I raise some corn fodder every year for feeding green in August and September. My cows never have refused to eat it, nor have they ever given a less quantity or a poorer quality of milk while being fed on it. They get their usual ration of grain and some dry hay all through the season of feeding green corn. They like sweet corn much better than the large southern kind. Dr. Loring advises us to raise millet *instead* of corn for feeding green. He has been *pitched into* so many times on that subject, that I should not wonder if he hated the sight of *cornfodder* even worse than his cows do.

I raised a piece of millet and Hungarian grass last year, not expecting it would take the place of cornfodder, but as an experiment, to learn its value as a crop for soiling and for winter use. As a summer feed, I could not learn its value, for my cows would none of them eat it, if they could get anything else. I had very hard work to use up a cart

load among eight cows. And the first time I offered it dry in winter they did not seem to like it, but after a few days they ate it better, and before it was all fed out some of them ate it as well as English hay.

I think all animals like some change in their feed, and different animals like different kinds of food. Some cows eat coarse hay best, while others prefer fine. I found my young cattle and dry cows ate the millett better than those that were giving milk. I shall try to raise a larger field of it this year for winter feeding. It grows quick, and can be grown after it is too late for corn. So much grass was killed last summer by the drought that an extra effort must be made this year to raise forage crops or the cows will be hungry next winter.

I do not wish to be understood as opposed to millett or Hungarian grass. I believe them both very valuable crops to raise on certain kinds of land, and for putting in after it is too late for corn.

Mr. Charles Smith, of Attleboro, raised a very good piece of Hungarian grass last summer on green sward turned over after taking off a crop of hay. I hope to do the same this summer.

Last fall I sowed a piece of rye to be cut and fed green this spring. It was put in after early potatoes, and although the season was dry it made such a growth that it had to be mowed to prevent it from smothering in the winter. On the 8th of this month (May), it had begun to show its heads, and I commenced cutting and feeding it to all my stock, young and old. They all took to it at first, and still seem to like it as well as anything I ever feed. And the cows in milk have increased their quantity wonderfully. I only wish the field had been four times as large. I shall try rye on a larger scale another year for soiling. I suppose it will get too hard before long, but I think by sowing it at two or three different times from the first of September to the last of October, it might be made to last four or five weeks; and it comes when no other green food can be had. Orchard grass on rich moist land can be cut before the first of June, and if rye can be fed through the whole of May it will make the winter seem shorter than if only hay is fed from fall till new grass comes.

Ever since I have had the management of farm stock, I have kept more or less definite accounts; enough at least to allow of making very close guesses at the profit or loss. I find it impossible to keep exact accounts with dairy stock. I can buy a pig for \$10, feed him \$10 worth of meal and sell him for \$25 and know that I have made a profit of \$5, allowing the value of the manure to be equal to the cost of labor of taking care of him.

Cows are not bought and sold at the beginning and end of each trial, but an estimate must be made of their value at each end of the

year. Allowance must be made for growth, if any, and also for the condition of the cow, whether farrow, dry, or fresh with calf,—all of which require considerable guessing.

I believe this is the first year I have ever kept a stock of cows without making either purchases or sales, or having some farrow ones among them. This year, ending March 31, 1871, I have had just eight cows and heifers, that have all had calves within the year. I have had them come in at different times, so that I could make about the same quantity of butter each month through the year. Four of the number were from four to ten years old. The other four were two-year-old heifers with their first calves.

Two calves were fattened for veal, four were raised, and the others killed when a day or two old. Those which were raised had new milk two or three weeks, and then milk skimmed at twelve hours old for two or three weeks longer.

I should not have thought of making these statements had I not seen in the March number of the *Agriculturist*, Col. Warring's account with his *Jersey* cows for the past year. He says "he has bought and sold a number, so that he cannot give an exact average, but the amount of butter made will not be less than 200 pounds for each cow of *full age*; and he is willing to compare their produce with that of any *native* herd with which he is acquainted."

By looking over my books I find that I have sold during the year 1534 pounds of butter from my eight *natives*, four of which were two-year-old heifers. I have also sold one quart of new milk every day, and all the night's milk skimmed at twelve hours old one day in every week, and during the winter months the morning milk has been sold new one day in a week. This does not include the milk, cream or butter, used in a family of from three to four persons, which would have carried the amount of butter made considerably above two hundred pounds per cow, and this from *natives*, grades, or *scrubs*, as some call them, and half the number only two years old at that.

What the *full age* of a cow is I do not know. Mine are all under seven except one, and she is giving now at eleven years, two or three quarts more than she ever did before. She is giving at this time eighteen quarts per day. When they all get to maturity I shall hope to show still better results.

A. W. CHEEVER,
Sheldonville, Mass., May, 1871.

For the New England Farmer.

HEAVY MANURING.

In an article of mine, published in the *FARMER* some weeks since, I used the term "*heavily manured*," in speaking of a field prepared for corn.

A correspondent of yours, J. H., of Shrews-

bury, thinks the term very indefinite. I concede that it is so, and that it was meant to be, because of the fact that but few are inclined to use manure with the profusion that corn will pay for in increased production.

If I had gone into particulars and told of the practice of good farmers in the town where the crop referred to was raised, either my veracity or the wisdom of such *heavy manuring* might have been questioned.

Notwithstanding J. H. thinks twenty-five loads of good manure to the acre the limit of profitable application for a corn crop, I can assure him that in some localities I am familiar with, it is but a fraction of the amount considered desirable and *profitable* to use on what is regarded as strong dark loam.

It has been a general practice to put on from forty to forty-six cords of good sea muck, consisting of rockweed, mosses and kelp, to the acre. This is turned under the sward or stubble. After the ploughing, from fifty to seventy-five barrels of fish were put on the surface, with some manure in the hills. The seaweed is worth as much a cord as the average of the manure taken from the stables in Boston. Much of it is as valuable as any known manure. A crop of oats usually follows the corn, and the same manuring is repeated on the stubble for another crop of corn and grain with hay seed, which completes the rotation and gives a good condition of soil for five or six years' hay crop, usually large enough without any top dressing.

I think it is very difficult to put on too much manure for a corn crop. It is a ravenous feeder, and I never saw the manure too profuse for it unless it was put in the hill—always a questionable practice, the wisdom of which but few are willing to endorse. It is too much like *rum* strength for man.

It is a question of much magnitude with every farmer as to how much manure he can afford to use to the acre. He cannot afford to raise small crops, for in so doing he wastes his manure and labor also. It is found true that the man who manures *very* liberally is the man who succeeds in making money by farming; and that he who furnishes insufficient food for his crops is in a fair way to be short fed himself.

Every prudent farmer will give this subject much consideration, especially if he takes the above view of it, and regards "manure as the mother of the meal chest," as the Scotch saying has it. We may consider it as *heavy manuring* when we have done so to the extent of our capacity in order to secure the best results for our outlay.

When we take into consideration the high cost of labor, and the inadequate return the farmer obtains for the products of that labor, every reflecting man must see that he cannot afford to employ labor unless he can in some way secure a supply of manure sufficiently large to ensure what is usually termed *large*

crops. These and these only will pay his labor.

It costs as much to cultivate a small crop of corn, aside from the cost of the difference in the quantity of manure used, as it does to cultivate a large one. K. O.

May 12, 1871.

RAISING CALVES AT AN AGRICULTURAL COLLEGE.

The London *Milk Journal* tells how stock is raised at Hohenheim. The rules laid down at this great agricultural college are, that it is best to rear calves entirely by hand so as to have less trouble with both the cow and the offspring, and the quality and amount of food must be regulated as follows:

1st week, daily,	12 lbs. milk.	0 lbs. oatmeal.	0 lbs. fine hay.
2d "	" 16	" 0	" 0
3d "	" 20	" 0	" 0
4th "	" 22	" 0	" 0
5'h to 7th "	" 22	" $\frac{1}{2}$	" $\frac{1}{2}$
8th week "	" 21	" $\frac{1}{2}$	" $\frac{1}{2}$
9th "	" 20	" 1	" 1
10th "	" 16	" 2	" 3
11th "	" 12	" 2	" 6
12th "	" 8	" 2	" 10
13th "	" 4	" 3	" 10

In the ninth week, the milk is first mixed with water, and a little fine oatmeal. The meal is afterward mixed with the dry fodder. After three months the milk is withheld, and then the young animals receive daily, till two and a half years old, from twenty to twenty-two pounds of hay, or its equivalent. But the calves never after receive, even in summer, any dry food till they are nine months old. The average feeding is so divided that the younger portion receive less, the older more, till two and a half years, when they begin to receive the regular rations of the older cattle, including the grain fodder, as indicated above. The growth with this treatment is so remarkable, that it is only a little surpassed by the rapidly maturing short-horns.

	Heifers.	Bulls.
Average weight of calves at 3 months	233 lbs.	353 lbs.
" " " 6 "	351	472
" " " 1 year	640	750
" " " 2 "	1184	1300
Daily increase of calves	1 5	1 8
" " " in second year	1 4	1 5

The college whose management of young stock is given above by the *Milk Journal*, was established in 1818, by King William, on the Roville estate in Hohenheim, Wurtemberg. Like all the other similar institutions in the country, it is distinguished for its excellent management and practical results. All the agricultural schools in Germany are sustained and directed by the government. At Hohenheim, forty courses are given during the term, comprising agricultural matters, forest matters and kindred sciences. It has from 125 to 150 students at a time, and its graduates must now number some 2000 or more. Professor Hitchcock says that nowhere in Europe can there be found a better model agricultural and scientific school. It comprises a farm of 825 acres, a forest of 5,000 acres, a botanic gar-

dum, a library; geological, mineralogical and botanical collections; also collections of woods, seeds and resins from the forest; collections of comparative anatomy, wool, agricultural products, models of instruments of tillage, instruments for surveying and physical science, and a well appointed chemical laboratory. It may be called the model agricultural college of the world, and as such, its mode of rearing young stock cannot fail to be of interest to our farmers.—*Utica Herald*.

MOISTURE FOR GARDEN CROPS.

It seems to me that far too little attention is given to the importance of moisture in proper quantities for the rapid and healthy growth of vegetables. In general, our lands are subject to periodical floods, alternating with severe drought, and unless very favorably situated as regards both drainage and retention of moisture, cannot produce the best results.

The plains of Arlington in Middlesex county, owe their celebrity as the garden of Massachusetts, quite as much to their peculiar situation in regard to moisture, as to any other circumstance; the soil of these plains is mostly a very fine sandy loam, resting on a subsoil of very fine sharp sand, not naturally rich soil, but capable, under the high manuring and great skill of the farmers, of producing most wonderful crops, except in some places where too elevated above the water level; the best of this plain land is only two to six or eight feet above the permanent water level of Spy Pond: the lower parts have been tile drained in some cases, and the subsoil is so very fine that it constantly soaks up the water from below like a sponge, giving a luxurious growth to vegetation in time of drought, seldom to be seen elsewhere. These plains will generally produce a good crop of celery after early onions, cabbage, lettuce, &c. During the severe drought of last summer, some of the celery on the higher parts suffered much, but on the lower and underdrained portions, the crop was remarkably fine, and sold at great prices in consequence of the failure of the highlands. Some of the farmers of the lowlands informed me that they were obliged to run a one-horse roller between the rows in order to pack the surface after cultivating, and to prevent excessive evaporation from the scorching winds which prevailed. In this way they produced a splendid crop of celery without watering.

Farming land of this character has been lately sold for farming purposes at \$1000 per acre, distant $5\frac{1}{2}$ miles from Boston market. The fineness of the subsoil, together with the nearness to permanent water level, constitute the great value of these lands. A soil equally good to all appearance, but having a subsoil of coarse gravel, would be much inferior. There is an opinion prevalent among many writers, that land constantly tilled will with-

stand the effects of drought better than when not tilled; very possibly this may be true, but the Arlington gardeners generally prefer to run a roller after the cultivator and hoe in time of severe drought, thinking that the excessive evaporation from a loose surface is thus checked, and the roots kept moist. So far as I know, this practice is not general in any other neighborhood.—*W. D. Philbrick, Middlesex Co., Mass., in Country Gent.*

TO REMOVE THE TASTE OF WOOD.—A new keg, churn, bucket, or other wooden vessel, will generally communicate a disagreeable taste to anything that is put into it. To prevent this inconvenience, scald the vessel well with boiling water, letting the water remain in it until cold; then dissolve some pearl ash or soda in lukewarm water, adding a little lime to it. Wash the inside of the vessel well with this solution. Afterward scald it well with hot water, and rinse with cold water before you use it. The reason for this is the ready combination of resinous matter with alkalis to form compounds soluble in alcohol.

Ladies' Department.

THE OLD ARM CHAIR.

BY ELIZA COOK.

I love it, I love it, and who shall dare
To chide me for loving that Old Arm Chair?
I've treasured it long as a holy prize,
I've bedewed it with tears, and embowed it with sighs,
Would you learn the spell? a mother sat there,
And a sacred thing is that Old Arm Chair.

In childhood's hour I lingered near
That hallowed spot with listening ear;
And gentle the words that mother would give,
To fit me to die, to teach me to live.
She told me ill would never betide—
With truth for my creed, and God for my guide:
She taught me to hsp my earliest prayer,
As I knelt beside that Old Arm Chair!

I sat and watched her many a day
When her eyes grew dim and her locks were gray;
And I almost worshipped her when she smiled,
And turned from her Bible to bless her child.
Years rolled on, the last one sped.
I learned how much the heart can bear
When I saw her die in that Old Arm Chair.

'Tis past—'tis past, but I gaze on it now
With quivering breath and throbbing brow;
'Twas there she nursed me, 'twas there she died,
And memory flows with lava tide.
Say it is folly, and deem me weak,
While the scalding drops start down my cheek—
But I love it, I love it, and cannot tear
My soul from that mother's Old Arm Chair.

SUMMER DRINKS.

In the *Galaxy Nebulae* we find the following advice as to summer drinks:—

The return of the warm season naturally brings to mind various preparations for hot weather. One of these our countrymen and countrywomen have always strangely neglected—the preparation of

cooling, non-vivacious beverages. While in "mixed drinks," containing some form of spirit, we probably take the lead of the world, our temperance tipplers show a strange poverty of invention. The only habitual sherbet is lemonade, the least delicate of them all, and moreover containing an acid which disagrees with many persons. Orangeade, so much superior to it, is rarely seen; raspberry and strawberry sherbets never. The difficulty of obtaining these fruits except during a very short season may have something to do with the want; but then there is orgeat, the most cooling and healthy of summer drinks; who drinks orgeat? In how many American towns can you get it? Simpler than all is *eau sucrée*. We laugh at the French for drinking *eau sucrée*, and think it must be insipid, but French sugared water is not insipid; it is redeemed from that quality by the judicious insertion of five or six drops of orange-flower water. The swells of the Grand Opera and the Italians used to take it regularly between the acts, instead of heating their brains with cocktails, or filling their stomachs with superfluous gas and spoiling their digestions through the medium of syrup and artificial mineral water.

THE PHILOSOPHY OF FRYING

The object of all cooking is to bring about those chemical changes in the articles of food which nature everywhere produces, in vegetable and animal substances, when exposed to the influence of heat. Baking, frying, boiling, or roasting are all only so many different methods of applying heat. The commonest, the most convenient, the cheapest, and quickest of these methods is frying, which can be applied to almost all articles of food, which requires the least apparatus and the smallest fire; yet of all methods it is the least one understood, the one which destroys most food, and is the cause of more indigestion and dyspepsia than all the other methods combined. The reason of this is that in many substances the admixture of fat prevents the chemical processes of cooking from having their proper development. The perfection of frying would be to have the food fried without coming into contact with the fat at all. But as this is, of course, a self-evident impossibility, the next best thing is to have the food come into contact with the fat as little as possible. This is accomplished simply by having the fat *hot*. Grease of any description is capable of being heated to a very much higher temperature than water, in fact it can be made almost three times as hot as boiling water. When fat is at its boiling point it is so hot that any article of food brought into contact with it is actually burnt, and this is precisely the reason why, for purposes of frying, fat should always be boiling hot. For any article of food, a doughnut, for example, dipped into boiling fat is immediately covered all over by a thin crust of burnt doughnut, which prevents the fat from penetrating further in, and enables the rest of the doughnut to be exposed to a greater degree of heat than can be applied to it by any other process, without coming in contact with the fat, and the natural chemical processes go on inside with a greater vivacity and to a greater degree of perfection than can be obtained by any other method. Perfect frying is the perfection of cooking, but so soon as the fat is not sufficiently hot to create the burnt crust around the article fried, then the fat penetrates it and absolutely prevents cooking from taking place at all. If the fat is not boiling, bubbling hot, the process that takes place is not cooking, but simply drenching the food with a tepid fat, and rendering it totally indigestible. It makes no difference how hot the fat is made afterward, the mischief is done the moment the fat penetrates inside. All perfectly fried food

has a thin, crisp, brown outside crust, which has in itself a pleasant, relishing taste, and is perfectly free from even the suspicion of fat inside, except what was intentionally put there by the cook. All housekeepers know that to fry well their fat should be hot. But they do not attend to it half as scrupulously as they would if they understood the true philosophy of it. Boiling, bubbling, hot fat cannot penetrate anything, and cooks to perfection, tepid fat penetrates everywhere and does not cook at all, but actually prevents cooking. Any housekeeper who reads this, and chooses to profit by it, need never put any greasy, fried, half-cooked and indigestible food upon her table. The whole secret consists in having the fat *boiling hot before the things are put in*. There is one other condition which follows naturally from this first one, but which is almost invariably lost sight of even by good cooks, and that is that the fat should entirely cover the article to be fried. The reason of this is, that the part not at once covered by the fat remains cold, cools off the fat near it, and then absorbs the tepid fat just the same as if it had never been hot. Frying pans should be deep, well filled, and heated to the boiling point, and then it is easy to turn out fried food crisp, brown, and dry on the outside, and perfectly soft, moist, and well cooked within. It is a peculiarity of the outside crust of things fried in boiling fat that the fat itself drips off from it as readily as water; hence, well fried articles are neither greasy in appearance, nor very greasy in reality. Frying ought to be as easy as boiling.—*Christian Union*.

IDLE GIRLS.—It is a painful spectacle in families where the mother is the drudge, to see the daughters, elegantly dressed, reclining at their ease with their drawing, their reading, beguiling themselves of the lapse of hours, days and weeks, and never dreaming of their responsibilities, but, as a necessary consequence of neglect of duty, growing weary of their useless lives, laying hold of every newly invented stimulant to rouse their drooping energies, and blaming their fate, when they dare not blame their God, for having placed them where they are. These individuals will often tell you, with an air of affected compassion, (for who can believe it real,) that poor, dear mamma is working herself to death; yet no sooner do you propose that they should assist her than they declare she is quite in her element; in short, that she never would be happy if she had only half so much to do.

CODE OF DRESS.

The writer of "Home and Society" in *Scribner's Monthly* for June, among other things, gives this code of dress:

This code, worthy to be engraved on tables of dress, runs somewhat after this wise:

Imprimis. The first instinct about a new fashion is the true one. Don't wait till your eye has lost its accuracy and your judgement its edge. Subject the thing at once to the general rule, and bow to the decision.

2d. What suits one person does not suit another. Know thyself.

3d. Dress should supplement good points and correct bad ones. Thick and thin, long and short, are not all to be subjected to one Procrustean style.

4th. Colors should be harmonious, should be massed, should be becoming. *Id est*, many little points or blotches of color sprinkled over a costume produce a disagreeably pica and speckled effect, as of a monstrous robin's egg, or a plum-pudding. One tint should prevail, relieved by a contrasting tint. No amount of fashionable prestige can en-

able an unbecoming color becoming. "Nile green" will turn some people into oranges, though twenty empresses ordain its adoption.

5th. Lines should be continuous, graceful, and feminine. It is better to look like a woman (if you happen to be one) than like anything else—even a fashion plate!

6th. Ornament must be subordinate. Nature, with all her profusion, never forgets this fundamental law.

7th. Above all things be neat. Dainty precision and freshness is essential to a woman as a flower.

8th. Individuality is the rarest and the cheapest thing in the world.

9th, and lastly. "Stylish" is of all the words in the English language the most deadly. It has slain its thousands.

CHANGING THE COLORS OF FLOWERS.—An English paper describes a case of a yellow primrose which, when planted in a rich soil, had the flowers changed to a brilliant purple. It also says that charcoal adds great brilliancy to the colors of dahlias, roses and petunias; carbonate of soda reddens pink hyacinths, and phosphate of soda changes the colors of many plants.

DOMESTIC RECEIPTS.

RECEIPTS FOR A TEA PARTY.—In reply to a correspondent of the *Country Gentleman*, who wishes directions for preparing tea for a small party, "Daisy Eyebright" suggests the following:

ROLLED JELLY CAKE.—One cup of sugar; one tablespoonful of butter; one and a half cups of flour; two-thirds of a cup of milk; one egg; two measures of Professor Horsford's baking powder or one teaspoonful of cream tartar; half of a teaspoonful of saleratus. Bake in a dripping pan, and when done, spread over with a thin coat of jelly. Cut the sheet into strips three or four inches wide, roll up. Mock cream can be used instead of jelly, made thus: Beat together one egg, one teaspoonful of corn starch, one teaspoonful of wheat flour, and two of sugar. Boil half a pint of milk, and stir in the mixture rapidly, not letting the egg curdle. Boil ten or fifteen minutes, remove from the fire, and add a teaspoonful of vanilla, lemon or almond.

WHITE MOUNTAIN CAKE.—One pound of flour and one pound of sugar, both sifted; one-half pound of butter; six eggs—whites of three excepted—whites and yolks beaten separately; one cup of milk; one small teaspoonful of saleratus; two of cream tartar, or two measures of Prof. Horsford's baking powder. Flavor with almond, lemon or vanilla extract—one teaspoonful of either kind. Bake in four jelly-cake tins. For frosting, take the whites, of the three eggs left from the

cake, beat to a stiff froth; add ten heaping tablespoonfuls of sifted sugar and one teaspoonful of corn starch; beat well. Add the juice of one lemon or half a teaspoonful of sharp vinegar. Frost between each two cakes and all over them, making a white mountain. The frosting can be flavored with the same essence used for the cake. This cake lasts fresh for some time.

RICE WAFFLES.—Delicious.—Take one quart of sweet milk, two coffee cups of boiled rice, and three-quarters of a cup of wheat flour; warm the milk; stir in the above named articles; add half a teacup of home-made yeast, two tablespoonfuls of distillery yeast, and half a teaspoonful of salt. Make at twelve o'clock to use for tea at six. Set in a warm place. When ready to cook, add two eggs well beaten. Bake in waffle irons.

LEMON CAKE.—One cup of butter, warmed; three of powdered sugar; five eggs, yolks and whites beaten separately; one teaspoonful of saleratus dissolved in one cup of milk; four cups of sifted flour; grated peel of one lemon. Add the juice just before putting the cake into pans.

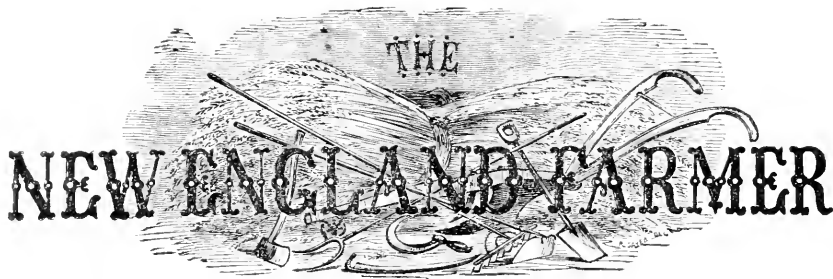
PUFFS FOR TEA.—One quart of sweet milk, one quart of sifted wheat flour, four eggs well beaten, two tablespoonfuls of melted butter, two tablespoonfuls of sifted sugar, half a teaspoonful of salt. Bake in brown ware cups, from twenty-five minutes to half an hour, in a brisk oven.

SUGAR JUMBLES.—Six cups of wheat flour sifted; two of sugar ditto; one of butter, warmed; one of sour milk; one teaspoon of saleratus stirred into milk. Roll out with flour enough to make thin; cut a hole in the centre, and sift sugar all over the cakes. Bake on flat tins, from twenty minutes to half an hour.

POTATO PASTE FOR DUMPLINGS.—Boil three large white potatoes until soft; peel and mash them. When quite smooth, mix with one quart of sifted flour and a scant pint of lard; salt to taste. Roll out and use for dumplings; or it makes a good paste for meat pies.

BONELESS CHICKEN.—Fricassee your chicken, taking care to brown the skin nicely; season to taste. When done set by to cool; then remove all the bones; put back into the dish in which it was cooked. Take a chopping knife and chop finely, leaving in all the oil of the fowl; if not enough of that, add a piece of butter. Then pack closely in a dish, as you wish it to go to table, and when your friends come to taste it, my word for it, their approbation will more than repay you for the little extra trouble it has taken to prepare it.—*Country Gentleman.*





THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES.

Boston, August, 1871.

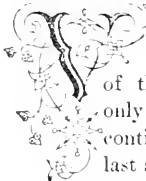
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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

THE DROUGHT AND THE GRASSES.



VERY protracted is the drought which now prevails throughout this part of the country. A drought, not only of the present year, but the continuation of one that commenced last summer, extended through the entire winter, the late spring, and now, in the last of July, is seriously affecting the crops.

This long-continued drought has materially affected the present grass crop. The roots of the best grasses have probably been destroyed, or greatly injured for the want of moisture, and from exposure during the last winter. The result is that hardy weeds have taken the place of clover, of timothy, redtop, and other valuable grasses, and a large portion of our fields are crowded with sorrel, white weed, dockweed, and other worthless plants. We have never before known the fields to present such a poverty-stricken condition. On grounds that were sown with grass seed with the grain, last year, the drought killed the young grass, so that all sorts of rubbish and trash is triumphant,—the sorrel and whiteweed prevailing over all the rest.

Under these circumstances it becomes the farmer to commence cutting the grass early, before the weeds perfect their seeds, and to afford opportunity for obtaining a second crop of grass on lands that are sufficiently moist

and rich to bring it. He can greatly promote his interests in this particular, by employing the excellent

Haying Implements and Machines,

which are now introduced all over New England.

The old hand scythe will never go out of date. It is indispensable, in most fields, near fences, around trees, and sometimes, where clover or grass is lodged, in open places.

There are now various patterns of the mowing machine. Most of them are so perfected as to cut one acre in an hour, as an average, and cut the grass well. This can be done with ease by two horses, and leave the driver sufficiently fresh to engage at once in tending the crop. On grounds that are smooth, there is little danger of accident in their use, and if taken care of properly, a machine will last for many years. It should always be housed when not in use.

In order to push the haying along at the most rapid rate, the TEDDER (from the word *ted*, to spread or turn, as Milton says, "The smell of grain or *tudded* grass") should at once follow the mowing machine. This machine has not yet come into general use, but is gaining popularity as its merits are better known. It is not uncommon in the haying season to have sudden showers in the middle of the day. Large quantities of hay are wet by these showers when it is in complete condition to go

into the barn,—and when all hands are engaged in getting it in. In many instances, hay thus wet, must lie over night as it was tumbled up to be pitched upon the cart, or as it was shaken out from the cock. In either case, the hay would be essentially improved by remaining so.

If the showers are of short duration, and the sun appear again, an hour's use of the tedder, in lifting the hay into the air and dropping it lightly again upon the sward, would shake out the rain and enable it to dry so as to be got in the same afternoon. Where fifty tons of hay are made, the saving in this particular alone would soon equal the cost of the machine.

The HORSE RAKE would follow in order after the tedder. Some farmers ascribe to it as much gain as to the mowing machine. Almost any person can rake, however, even children, while it is difficult to find mowers who are sufficiently strong to continue day after day to swinging the scythe, and who can mow rapidly and well.

In the delightful grass fields in Addison county, Vt., the horse rake was kept in motion, after the grass was dry, to the complete exclusion of the hand-rake; indeed, we did not see the latter at all, in the hundreds of acres over which we went. All the hay was got into windrows, and all the scatterings in loading were got together by the horse-rake.

Another improvement is in the style of the forks used. They were once made at the common smithy, and were too heavy and rough and imperfect in form. The handles were too large in some places and too small in others. The fork, of a proper form, may be lighter and yet stronger than an ill-shaped one. The forks then had but two tines. Now, many of them have three, and the third tine is a very great improvement on the old form.

The HORSE FORK, for unloading the wagon, and conveying hay to the bays or scaffolds, proves of considerable service where barns admit of their use.

HAY CAPS are of great assistance in curing the crop. If the grass can be wilted immediately after it is cut, the hay cocked and covered with caps, it will remain safe, even in a storm, and there is very little to be done for it afterwards in the way of turning and drying.

Many years ago, securing the hay harvest was considered the most laborious and critical

work of the year. With the help of the machines mentioned above, it is not considered so now. Many farmers say that they consider the hoeing more laborious than the haying.

In a meadow directly before us as we write, covered with a growth of at least a ton to the acre, we have known the whole crop cut, cured and housed in *three day's* time, by the aid of machinery in the whole process.

CULTURE OF THE CABBAGE.

Few of the vegetables are of more consequence to the farmer than the cabbage. It is cheaply and easily raised, very productive, and can be preserved in its natural condition for eight or nine months in the year. It forms a highly nutritious and palatable article of food upon the table when boiled, and a refreshing salad when chopped and served with condiments, such as vinegar, pepper, mustard, &c., and used in a raw state.

It is important to the farmer in another respect. It is profitable as an article for market. The farmer who is at a considerable distance from cities, or manufacturing centres, may cultivate and send cabbage to market to as much advantage, perhaps, as those can who improve more costly lands and pay higher taxes, in the vicinity of a city. This is already done by some who reside fifty to seventy miles from a large market. In the autumn, what cabbages remains unsold are set in furrows in grass ground, and covered with forest leaves or straw to the depth of three or four inches, and light brush thrown over it to keep it in place. In this way they keep well, and in the latter part of March and in April and May, they are lifted, placed in barrels and sent to market. At these times, a cabbage which would bring but five or six cents in the autumn, would bring from ten to twenty cents in Boston, according to the supply that might be on hand.

The farmer, therefore, may find the cabbage a good market article upon which he can realize a profit in money, as well as furnish a wholesome article for his table.

But this is not all. There is no stock upon the farm but would be benefited by an occasional feed of cabbage. Swine like it, and thrive better when its fresh and succulent leaves form a part of their food. Poultry will leave grain of any kind in the winter season to peck at a head of cabbage. They

will keep in better health and produce more eggs when they have access to it. When at large in the summer, they eat grass, and will eat some kinds of hay every day in the winter if they can get it. Cabbage seems to supply the place of these, and to keep the fowls contented and thrifty. Those persons, therefore, who are engaged in feeding poultry, should provide them with cabbage plentifully.

All the neat stock are exceedingly fond of cabbage. If a cow breaks into the garden, about the first thing she makes for is the cabbage patch. Milk is largely increased in quantity by feeding cabbage to cows, but the quality may not be improved. They can be fed to milch cows, however, without detriment to the milk, by feeding them out just after the cows have been milked. Nothing can be more grateful or suitable for calves which are to be raised, as they can be easily masticated, and will supply the moisture which is lacking in dry hay. Making cabbage a portion of their food would be better than much meal. Sheep, oxen and horses would all be benefited by the use of cabbage when judiciously fed to them.

An acre of cabbage not uncommonly brings from \$200 to \$300, and sometimes as high as \$500. A correspondent informs us that a neighbor of his realized \$300 from an acre, that was in grass the previous year.

An observing writer says "there is no vegetable that can be planted after the first of July that will give so great a yield of fodder as cabbages; and no one who is likely to be short of pasturage, or winter feed, should neglect this highly important adjunct to his other crops. The notion that it should only be grown by the dozen for cooking in the kitchen is an old, and we may add, a foolish one. Grow them by the thousand, and after pasture fails, feed them to every domestic animal on the farm. When the ground freezes, pull up the crop and store it in the cellar or the barn, or under straw, until you can feed it out."

The cabbage requires a rich, moist soil, and is greatly benefited by the use of ashes, or alkali in some other form. Soap suds will promote their growth wonderfully. They should be hoed often. Some persons who raise cabbage largely say that salt, or a weak solution of potash, will prevent them from becoming club footed.

For the New England Farmer.

THE GARDEN IN AUGUST.

"O friendly to the best pursuits of man,
Friendly to thought, to virtue and to peace,
Domestic life in rural pleasure passed!
Few know thy value, and few taste thy sweets,
Though many boast thy favors, and affect
To understand and choose thee for their own."
—COWPER.

Rhyme and poetize as we may on the pursuits of the gardener, horticulturist and cultivator of the soil, the great majority only see, in actual life, toil, care and hard labor in obtaining the best products of the soil. To the ardent student of Nature it is quite different. He sees by study and observation very much that is not revealed to the ordinary laborer. To him every unobservable action and thing has a "time and purpose." He can draw instruction as well as recreation and amusement, from the revelations unfolded in plant life; and when that is matured he can equally, yes, even better, enjoy and relish green vegetables, &c., with those who see less of these revelations of Nature.

The hot days of August are welcome to the gardener, for in them he sees the maturation of some choice crops which cooler, and more unfavorable weather would deprive him of. Melons, tomatoes and all other vegetables of tropical origin require the heat of July and August in order that they may mature with a rich, delicious flavor.

We are adding, from time to time, to our vegetables and plants, those of tropical origin; and as we advance in knowledge and culture many others, without doubt, will be added to our already respectable list. Every acquisition is an addition to the comfort of our families and to the nation's wealth. Health and refinement are promoted by the variety of food which a family consumes—"the former generation" to the contrary notwithstanding. A good test of civilization is the variety of fruits, vegetables, &c., produced in the garden. Contrast the tropical man or the Esquimaux with the most enlightened and civilized of the temperate climate, and what a difference will be found in all respects. This is not purely the result of climate, for on the same parallel of latitude, in our own country, we find very different tables set. Some will be supplied with almost every variety of fruit and vegetable as well as meats; on others will be found the everlasting hog, salt meats, potatoes or hominy, in some of their forms, every day of the year. What wonder that the youth fed at such a table are glad to see the time when they can leave such a life and farming altogether?

During this month the labors of the judicious gardener are rewarded by a continuous supply of delicious edibles, which may be kept up as long as vegetation continues for the season. Any surplus of most kinds may be preserved in some of the various available modes of preservation. The space cleared of

early vegetables may again be occupied by some other late crops, as turnips, cabbage, spinach, &c.

ASPARAGUS.—If not already done, give a dressing of some suitable fertilizer and carefully work it in; keep clean of weeds; gather, clean, and sow the seed in well prepared beds, if desirable, and new beds are needed.

BEANS.—Save some of the earliest and best for seed, gather them as they ripen, dry in the attic where vermin will not disturb, &c. Gather for the table, &c., as they are ready. Bush varieties may be sown to furnish a winter supply of snaps, &c.

BEETS.—Gather first from the thickest parts of the bed, so the rest may have space. Keep the ground clean of weeds, water and cultivate. One or two of the earliest may be marked for seed.

BLACKBERRIES.—Gather as fast as they ripen fully. Can, or dry any surplus.

CABBAGE, CAULIFLOWER, and BROCOLI, should be hoed frequently to keep them growing.

CELERY.—No plant delights more in moisture than this, and if the trenches are in well drained soil, it is well to water freely every other day. Stir the ground often, and do not begin to earth up too soon. Rapid growth is essential to goodness, hence applications of fertilizers in a liquid state, or worked in the soil about the roots, is often advisable.

CORN.—Mark and save for seed a few of the earliest and finest ears; gather and use others as fast as they come to suitable condition. In some sections a worm attacks the ears, eating downward from the silk to the kernels, spoiling the ear. Kill them.

CUCUMBERS.—If it is desirable to keep them longest in bearing, pick them close, allowing none to seed. Gather and pickle, or lay down in salt. Save a few of the earliest and finest specimens for ripening for seed.

EGG PLANTS.—The growth and ripening of the fruit will be accelerated by placing a board painted white on the north side of the plants. Hoe well, hilling slightly.

GRAPES.—Guard zealously against insect enemies, and mildew. Tie the leaders to the trellis. The side shoots from bearing branches that have been shortened in will need pinching. Pinching and summer pruning must be governed by circumstances.

HERBS.—Gather as they come into blossom; dry in the shade, or in-doors.

MELONS.—Thinning to only a few specimens to a vine, acts as favorably as for fruits of any kind, in growing nicer specimens of superior quality and flavor.

ONIONS.—As soon as they ripen, gather for use or market; but where they are to be kept any length of time, they should be exposed to the sun till properly cured. Seed may be sown for "pips," for early use next season.

PEAS.—Those done bearing should have the vines pulled and fed to the pigs, stock, or be

cured and stored for winter fodder; if not mildewed they are well eaten by some stock.

POTATOES.—Harvest the early crop and replant the ground to some other crop, as above. Remove to the compost heap, or burn, all the tops.

SEEDS.—See to it that all the earliest and best kinds are saved as they mature. Label each one distinctly, variety and year, before putting away in a dark, dry place, secure from all vermin, or other annoyance.

SINACH.—Sow seed at intervals for fall use; cultivate well, and keep clean.

SQUASH.—Look out for and remove eggs of the squash bug—*Coris tristic*—from the leaves, and destroy all insects infesting the vines. Save early specimens for seed.

TOMATOES.—Continue to trim and train, as begun; hand pick and destroy the worms—larvæ of the *Sphinx quinquemaculatus*—they are harmless, although ugly looking.

WEEDS.—The careful gardener gives no quarter to weeds; saves time and expense by cutting them down as soon as they put in an appearance. If the seed of any is found, the safest course is to burn them, others will add to the compost heap and aid in the production of other more useful plants.

W. H. WHITE.

South Windsor, Conn., 1871.

MINK BREEDING.—A correspondent of the *Maine Farmer* furnishes an interesting notice of Bacon Brothers' mink breeding establishment in Charleston, Me., near East Corinth. They have eighteen full grown minks—two males and sixteen females. The inclosure, including a portion of a brook, is of cedar posts and sheet iron and wire gratings, which is constructed on a ledge of solid rock. It is found that the minks, which are caught in box traps, are easily tamed, gregarious in their habits, preferring to lie down in groups and huddle together. They are aquatic in their habits, and very expert divers and swimmers. Their food is principally meat and fish. They are sleek, fine looking animals, quite playful, and seem to enjoy domestication. The writer was shown one of the feminine gender exercising her maternal instincts in nursing her three little ones, then two weeks old. They bring forth from three to six to a litter, and breed once a year. The Messrs. Bacon having gained considerable valuable experience as regards their management, are quite sanguine of success. As prime skins are worth six dollars to eight, they hope to make it a paying business.

MAKING CLOVER HAY.—Cut it early; before the heads are turned brown. Cut it when it is dry. After it is cut, wilt it as rapidly as possible, by turning it, or throwing it up with the tedder. The leaves will not fall off in this process. Then cock and cap it, and let it remain thirty or forty hours. Open to the sun and air a little and get it in.

EXTRACTS AND REPLIES.

DRY COAL ASHES AS AN ABSORBENT.

In some of the advertisements of Earth Closets, sifted coal ashes are recommended as a substitute for loam. In the report of the committee of the Worcester North Agricultural Society on Poultry, (see abstract, Flint's Report, 1870-71, page 208,) dry coal ashes are also recommended as an absorbent and disinfectant in hen houses.

Now can you tell me how they would work as an absorbent of urine under cattle, in winter, when the stock of dry material collected in the fall has given out, as was the case with myself? Would there be any danger of their rendering the soil so hard as to be impenetrable to plant roots; or, if applied to the surface in top-dressing grass lands, would they retard the absorption of heat and moisture? If the last named danger was likely to occur, it could be used beneath the surface. In my opinion, rotten turf is a better material; but sometimes,—as was the case with me last fall, when I was at work clearing up a piece of new ground,—other work prevents the securing of such material, and a substitute is needed. R.

REMARKS.—Coal ashes probably always contains more or less wood ashes, as wood is used for kindling the coal. But there would scarcely be enough of wood ashes to leach and injure the cattle by lying upon it. In other respects it seems to us that coal ashes—not cinders—would well answer the purpose of an absorbent under cattle, and would not be injurious to the soil to which applied.

We employ the ash, annually, of what falls from about twenty tons of coal; a considerable portion of this is in the hen-house, and the remainder as a top-dressing on the driest uplands we have.

There is so much coal used now, in the country as well as city, and consequently such a quantity of its ashes at command, that, if good for agricultural purposes, it is important that all should know it. There are many instances recorded where it has proved highly beneficial.

Dana, in the Muck Manual, says that from four to eight pounds in every one hundred are valuable to the farmer. This undoubtedly refers to their nutritive properties; but in addition to these qualities, they exercise an important influence in a mechanical point of view. If applied to a compact soil, they tend to separate the particles, and open them to the air and sun, and have an important ameliorating effect upon its producing powers.

In the English Gardener's Magazine, some interesting experiments are given as follows: Three rows of Swedish turnips were sown on the 15th of May. The rows were sixty feet long, and three feet apart, and the plants fifteen inches from plant to plant. No. 1 was manured with well-rotted dung. No. 2 with the tops of cabbages just come into bloom. No. 3 with coal ashes. They vegetated about the same time, but the row with the cabbage tops seemed to suffer most from the drought, the season being hot and dry. The row manured with coal ashes had, all along, a more luxuriant appearance than the other two. In harvesting the crop, No. 1, weighed seventy-eight

pounds; No. 2, eighty-eight pounds; No. 3 one hundred and twenty-eight pounds.

In his Scientific Agriculture, Norton says coal ashes should not be neglected. There are always cinders enough to pay for sifting, and when sifted, soap-makers are usually willing to pay a small price for them. This shows that they contain soluble matter enough to be well worth saving. Examinations show small quantities of phosphates in anthracite ash, and about two per cent. of substances soluble in water. Such facts all show that these ashes should be preserved, and applied either as a top-dressing upon grass, or ploughed in as a part of composts. They would have much of the beneficial mechanical effect of common ashes, and are also good for sowing with portable manures.

Complaints have sometimes been made that coal ashes when placed around trees have proved injurious. This shows that they have something of a caustic character, and that when used in proper quantities they are beneficial. Valuable manures, like guano for instance, which are highly beneficial in small quantity, may in large quantity be perfectly destructive to vegetation.

THE BYFIELD CROP OF CORN.

It seems to me that Mr. Poor in his communication published in the FARMER June 24, has got things a little mixed, when he refers to a crop of corn 116 bushels to the acre having been raised on the Byfield Town Farm, in 1847 or 8. I was the Superintendent of that farm at that time, and though I should be very glad to have the credit of a crop as large as that, and have been trying for the last twenty-five years to raise a large crop, and have been considered by my neighbors as a very successful corn grower, yet I have never in my experience raised over sixty bushels to the acre,—the average being about fifty bushels. Hence I never raised or reported that amount as having been grown by me, and I think that Mr. Poor had better look over his statistics and give credit where it is due.

I agree with Mr. Poor in regard to the value of the corn crop, especially on large farms. I know that it requires a good deal of labor to grow it, but then much of the work can be done at a season of the year when it can be very well attended to. It is planted in the spring when not much else can be done; it is hoed before haying, and harvested, with me, after all other crops are gathered. To my eyes eight or nine hundred bushels of nice, bright, sound ears of corn in the bins are a rich sight. The fodder of seven or eight acres of corn is of considerable importance in a stock of cattle; being worth, I believe, in a crop of fifty or sixty bushels, as much as a ton of English hay.

SPREADING MANURE IN THE WINTER.

One word about spreading manure on the snow in the winter for a crop of corn. The old adage that one swallow does not make a summer, holds good here as well as any where else. I had occasion to view a piece of corn last year where a part of it was treated that way, and it was estimated that the crop was one-half less than where the same amount of manure was applied in the spring.

IRRIGATION OR DRAINAGE.

Still another word about underdraining light, porous soils. I would like to ask "A Fire-side Farmer" whether the better quality of his crop on that sandy land through which he conducted water

was not to be attributed to *irrigation* rather than *drainage*?

J. L. HUBBARD.

Peabody, Mass., June 30, 1871.

THE DIFFERENCE.

James keeps the roadsides clean and neat;
About his buildings too;
He sets out trees, and on the street;
And thinks it pays,—don't you?
Smith "has no time for chicken fixens,
So very busy every day;
Business driving like the dickens—
Don't believe in such boy's play."

James sells in season, at fair price,
Whatever he has to spare;
While *Smith* holds on to his for rise,
And gets the fall—that's fair!
He goes to market very often
"To get the run of trade;"
James consults the weekly FARMER
And thinks a saving's made.

J. W. L.

Maine, July, 1871.

AGE FOR HEIFERS TO COME IN.

In the FARMER for June 24th, W. H. W. inquires at what age heifers should come in with first calf, that they may do best. The Editor very properly replies, according to the writer's experience and observation, by saying that it depends upon the heifer and her previous keeping. In our own experience we have had them come in at about two years, and also at three years of age, and found that the younger did equally as well as the older. At the present time, we have one giving milk, after her fourth calf, which came in the spring she was two years old, or about twenty-six months old. She has given milk without a day's interruption since her third calf, and has now a fine heifer calf being raised, about four weeks old. The cow has always done well, and I think has improved this season on former ones. She has always been well kept; by which I mean has had what she needed to eat of grass and hay, without being pampered, and with a little meal or shorts,—say two quarts per day—a part of the time when giving milk during winters. She was raised on the farm, and is pure Durham. I believe it is much better, as a rule, to keep a calf growing by proper feeding and have them come in at two, then wait another year. We get more profit from them, as on our soil their teeth wear out and they fall when from eight to ten years old.

W. H. WHITE.

South Windsor, Conn., June 27, 1871.

HOGS.

In a recent article in the FARMER Mr. A. W. Cheever makes a statement something like this. He can buy a pig for ten dollars, feed ten dollars worth of grain, and sell the pig for twenty-five dollars, leaving a profit of five dollars, the manure being supposed to pay the labor. As I quote from memory the language may not be quite accurate, but Mr. C.'s idea is given.

Now, Mr. Cheever is a butter maker, and probably feeds sour milk, and butter milk, as well as family waste, to his hogs. But I should like to have Mr. C., or any one else, tell me how much profit can be made in raising a hog from infancy to any stage of growth where he may be properly made into pork, when round hogs are worth only seven cents a pound, with meal, at retail, \$1.75 per bag of 100 pounds, and good scraps two and three-fourths cents a pound.

Perhaps Mr. C. buys at wholesale and gets feed cheaper. I do not ask the question in a critical spirit, but simply for information. A farmer told me that it used to be considered that money could be made on pork with corn at \$1 per bushel, and round hogs at six cents a pound; but whether this

could be done without the feeding of waste, otherwise valueless, is the question. I have heard farmers reckon a hog as costing nothing, because they had raised him on corn and potatoes, milk and waste, produced by their work on their own land. But if the products of a man's time and land are worthless, then he had better change his business, and reinvest his capital. How many pounds of meal or of scraps are required, properly fed, to make a pound of pork in an average hog?

Is there any better way to feed a hog while growing, than to let him have all he will eat, and retain a sharp appetite at meal time, three times a day; in the absence of milk or waste, feeding corn meal, with a few scraps for variety, and a daily feed of clover or some other green vegetable substances, whenever it may be had?

R. A. F.

Franklin, Mass., July, 1871.

JERSEY CATTLE FOR BEEF.

As you solicit the experience of stock raisers in regard to the fattening qualities of the Jersey cattle, I would state that my experience corresponds with the statement of Rev. W. A. P. Dillingham, published in the FARMER of July 1. Good Jersey cows when in milk will not take on flesh very much, if they are fed ever so well, but will convert the food into milk and still be thin in flesh. But when dry, they fatten very rapidly if generously fed. They are greedy feeders and not apt to cloy in fattening.

In an article on "Jersey Cattle," in John Morton's Encyclopedia of Agriculture, the author says, "It is a fact not generally known that Jersey cows when too old to be kept longer for milk, if dried off and fed up fatten very rapidly." And he relates an instance of an old Jersey cow that was considered of little value and offered at a low price, that being "fed up" on turnips and meal, fattened remarkably quick, made excellent beef and gave a handsome profit to the feeder.

I. H. WALKER.

Springfield, Vt., July 3, 1871.

CURRENT WORMS.

I have three remedies which I can conscientiously recommend to the club, if faithfully applied, viz: crush them, burn them, or "poke" them. I have tried all of them, and know they will clear the bushes. By "poke" I mean white hellebore. You can buy it at the druggists, and a little sifted on the bushes when the dew is on, kills them. This season, as everybody is more or less troubled with *carbolite*, *carbolate*, or carbo-something else, on the brain, I bought some carbolate of lime and sifted on my bushes. Results,—the worms like it, or at least do not object to it when mixed with currant leaves. Perhaps if fed on the carbolate clear, it might kill them, but not otherwise. T. N.

Addison County, Vt., July, 1871.

BAD USE OF SUGAR BEETS.—An English paper contains a notice of a distillery established on the estate of a Mr. Campbell of Buscot park, near Faringdon, which produced upward of 60,000 gallons of beet-root spirit the past season, with such satisfactory results that preparations were made for sowing upward of 800 acres the present year. The "spirit" from the beet is said to be superior to that from grain, and the writer adds, the certain but sure progress of beet-root cultivation is now an ascertained fact in England, both for the production of sugar and distillation, and many leading agriculturists assert that in a few years there will be many sugar factories and distilleries among the agricultural population.

NEW HAMPSHIRE AG'L COLLEGE.

A building for the accommodation of the Industrial College of New Hampshire, in connection with Dartmouth College, was dedicated at Hanover, Friday, June 23, with appropriate ceremonies, in the presence of the Governor and Council, the Legislature, and other State officials. Addresses were made by President Smith of Dartmouth College, Prof. Dimond, Gov. Weston, ex-Gov. Smith of New Hampshire, the Hon. Moses Hunt, Chairman of the State Board of Agriculture, the Hon. David Clough, a member of the Council, Senator Patterson, and others.

"A brighter day" said the Hon. David Clough, "is dawning for the farmers of New Hampshire. We want a more intelligent and enlightened yeomanry in our State." This was the spirit manifested by all who spoke—a spirit of congratulation that New Hampshire is coming to realize the great benefit to farmers of such means of education.

Senator Patterson fitly said: "The Agricultural College belongs to the State—to the farmers especially. It is to teach the intimate relations between all professions—between labor and capital. Without capital agriculture can do nothing; without labor capital cannot accumulate. A college on a barren soil will make agriculture, otherwise unprofitable, a source of income."

The building which was thus dedicated is known as "Culver Hall." It is pronounced by a correspondent of the *New York Tribune*, a model of architectural beauty. It stands about forty rods east of Reed Hall, and fronts southward, with a fine view. Nineteen miles distant, Ascutney, the most pointed of the mountains of Vermont, stands up chiselled sharp against the sky. The building has a length of one hundred feet and a breadth of sixty, and is three stories high, with a basement. It is to be lighted with gas and heated by steam. The first story contains the chemical lecture-room and laboratory; the second, the State Museum, "devoted to the exhibition of all the natural products, whether mineral, vegetable, or animal, of the States of New Hampshire and Vermont;" while in the third, the Museum of Natural History of Dartmouth College has recently been placed. There are also in the second story various rooms for the accommodation of the officers of the College.

A correspondent of the *Boston Daily Journal* makes the following statement as to how the funds for the building were obtained:—

The late Hon. David Culver of Lyme gave \$15,000 to Dartmouth College to establish a Department of Agriculture, and his wife gave \$10,000 for any purpose to which they might wish to apply it. When the trustees of the Agricultural College decided to establish it as a department here, the trustees of Dartmouth proposed to the Legislature of New Hampshire to appropriate \$25,000 for the erection of a suitable building if the sum of \$15,000 was appropriated from the State Treasury toward completing the building, which they did at the June session in 1869. Since that time Mr. John Conant of Jaffrey has given \$7,000 to pay for the

farm which Professor Dimond had purchased on his own responsibility, and he has given \$5000 to erect suitable buildings, on condition that the Legislature give a sum sufficient to complete them. As the Legislature is composed largely of farmers, they will certainly not be so blind to their own interests and the interest of the State as to refuse to appropriate the small sum that is necessary for this purpose.

TROTTING—ORLEANS COUNTY FAIR.

A few weeks since we made a note of the fact that the managers of the agricultural society of this county in New York, had excluded trotting from its grounds during its ensuing fair. The editor of the *Rochester Rural Home* made some strictures on this decision of the officers of the society, and asked, Can not the managers of our farmers' fairs devise and put into practice, a system under which the horse can be exhibited and not gambled with?

In the next number of the *Rural Home*, a writer with the signature of "Secretary," after quoting the editor's remarks, says:—

I was surprised on reading this, as it is evident that the object and intention of the Board of Managers are not understood. The changes in regard to horses, are only and solely the omission of premiums for "trials of speed"—the "mere races," above referred to, on the one hand, and offering much larger premiums to the horses exhibited, on the other. There is no change in the rules and regulations in regard to the horses exhibited; nothing to prevent any proper tests of "strength, steadiness, and good training as applied to work," nor of style, action and speed. The track will be in good order, and the judges will have all the liberty they have ever had, or probably those at any other county fair have, for all proper tests of the various useful qualities of the horses exhibited. The Board practically acknowledge that the horse is the noblest and best animal used on the farm; as they offer much larger premiums for those exhibited, than are given to any other animals, or articles, that may be shown. The list shows that they offer seven premiums, of \$20 each, and ten of \$10 each, making with the smaller sums offered, in all, \$285 that will be given to horses, mares, and colts. As the highest premium offered for any other animal or article is \$10, it must be seen that the merits of horses are fully recognized.

It is only the "mere races," so generally attended with betting, "gambling and other mischievous practices," that are omitted. Thus I believe we are putting "into practice a system in which the horse can be exhibited and not gambled with;" as we allow of all but the regular races, whether trotting or running, which always result in betting in some form, and other disreputable practices.

MANURE FOR TOBACCO.

The tobacco growers of the Connecticut Valley have for many years depended on the manure made from fattening cattle and sheep for the leading fertilizer of their tobacco plants. But this year the decline of some four dollars on a hundred pounds of dressed beef has decided many of them to look to other sources for the great amount of manure required by the tobacco crop. How those of East Whately, Mass., are securing the

needed fertilizers, is indicated by the following letter from that town published in the *N. E. Homestead* :—

Mr. E. Belden & Son have received twenty-one carloads of manure from Montpelier and Middlebury, Vt., one hundred cords at a cost of about \$13.00 per cord, delivered upon their river lots; cost of freight, per carload from Montpelier is \$40; from Middlebury, \$36; from Whitehall, N. Y., \$31, from which place Messrs. Crafts, Wood & Billings have received twelve carloads and are to have two carloads per week through the entire season. Mr. Charles R. Crafts from this place, their agent, has moved to Whitehall and is superintending its loading, shipment, &c. Wells T. Smith has received one carload from Holyoke vaults, delivered at our depot at \$15 per cord. Israel Smith has received three carloads of lime and ashes from South Adams. C. G. Crafts two carloads from Vermont. One hundred and ten tons Peruvian Guano, about seventy-five tons Phosphate, ten tons fish guano, three carloads plaster, two carloads lime, some potash and various smaller lots of fertilizers to experiment upon have been sold here this spring, at a total cost of about \$20,000 to \$25,000. It has made very brisk times for farmers here, causing a very "wide" odor, sometimes almost too extensive for the ordinary nasal apparatus to endure! But tobacco is sovereign; his sceptre a mighty one and our people *en masse* bow submissively to his inexorable demands.

We have had a good time to set plants and many are already through with that part of the work. Everybody has been bowed, in rain or shine, to the task—so now, old rheumatism comes in for his harvest of aches and pains. Lame backs, lame sides, lame limbs, lame necks, lame heads and swelled eyes seem to be the prevailing complaints. Why, we are perfectly delirious, monomaniac, on the growth of the sovereign "weed!" and whatever the cost of funds, muscles or brains are bound to grow it.

For the New England Farmer.

FLOWER GARDENING FOR JULY.

Cultivation of Summer Flowering Bulbs, Japan Lilies, Gladiolus, Tigridias, &c.

Japan Lilies have become the belles of the *parterre*, among the bulbous tribes. They are perfectly hardy, enduring the coldest winters of New England with a slight covering of leaves or stable litter, and they flower profusely in almost any good, common soil, and their flowers are truly magnificent. Within the past few years several new species and varieties have been either imported or produced from seed by our own florists, and so great is their number, connected with other species of lilies, that some cultivators make a specialty of growing them for the market. The bulbs should not be disturbed oftener than once in three or four years, as they do not bloom so finely if their roots are molested. They require much moisture while flowering, and if the season is hot and dry, a mulching of moist leaf mould or manure will greatly increase their beauty, and the number of their flowers. Though they will grow in any soil, yet their native element is rich and loamy, mingled with sandy peat, and they will grow several inches taller and produce many more flowers if their

tastes are consulted and complied with. There are several species of these flowers.

Lilium lancifolium is their botanical name, and the varieties run through various shades of crimson, from pale blush, flesh color and rose, to the deepest crimson. They grow from eighteen inches to three feet high, producing from three to twelve flowers, from four to six inches in diameter, with petals much reflexed, and dotted with crimson and brown and papillæ which glow like jewels on the light ground work of the petals.

Lilium auratum is also a native of Japan, and was brought to this country nearly ten years since, when one bulb was sold for forty dollars, but they have increased so extensively that fine flowering bulbs can now be purchased for fifty cents.

It is called the Queen of Lilies, and is the most lovely of all the lily tribe. The flowers are very large, frequently from ten to twelve inches across, and of a pure white, with a golden yellow stripe down the centre of each petal, while every petal is dotted with purplish crimson papillæ. It grows from two to four feet high, and a single stalk will often bear from eighteen to twenty of these magnificent flowers. It possesses a most delicious fragrance, fairly perfuming the evening air. It is raised from seeds, and several new varieties have been produced, one of which is of a snowy whiteness; the other has exchanged its golden band for a purplish crimson one.

These lilies are not quite as hardy as the *L. lancifolium*, but they will endure the coldest winter with a slight covering of leaves of evergreen boughs. At its first introduction into England it was considered a stove plant, and so treated, but the flowers were poor and withered. Out-door culture was tried, and the true beauty of the plant was revealed.

Lilium longifolium is also a native of Japan. It grows from ten to fifteen inches high, and produces from two to five trumpet-shaped flowers of the most pearly whiteness and from six to eight inches long. The internal base of the tube is of a greenish white and they are very fragrant. If the flower stalk is cut and immersed in water, they will keep fresh for more than a week.

Lilium crinum is also a Japanese flower, somewhat similar to *L. longifolium*, but its flowers are larger, and there is no greenish tint at its base. Two other species have lately been introduced from Japan, *L. takesima*, or Jama-juri and *L. lin-kin*, which belong to the same species of the above named lilies.

Lilium Brownii is supposed to be a native of Corea. Its flowers are very large and of snowy whiteness on the inside, while the exterior is striped and blotched with a deep purple line. This flower requires a partial shade, and the soil should be quite sandy and well drained.

Lilium fulgens or *L. sanguinea* is also from Japan. It grows at least twenty inches high, and its flowers are from three to six

inches long. Growing in an umbel, they are of the brightest red and are very showy and beautiful. They are as hardy as the *Lilium auratum*.

Lilium thumbergianum is very beautiful. Its flower stalk is about a foot and a half in height and bears from one to three flowers of a deep orange red hue, with small purplish papillæ or spots. There are numerous varieties of this lily, which vary from pure canary color to nankeen, orange to fiery red, with orange, black and brownish spots.

Gladiolus.

These bulbous plants derive their name from their sword-shaped leaves. There are as many as sixty different species, which have been divided by hybridization into an immense number of varieties, comprising some thousands of named flowers. The English florists have paid great attention to the cultivation of them, and have found them a source of much profit. In nearly all the species the shape of the flower is the same, but they differ in colorings and markings. Very few of them are natives of Europe, but have been brought to us from the Cape of Good Hope, Southern Africa and Madagascar. They blossom during the wet season, teaching us that we should give them a copious supply of water when the flower stalks appear.

Until Cape Colony was ceded to England in 1795, little was known of these flowers, but the English botanists found them growing there, and soon they were the pride of English gardens. Since that they have become "florists' flowers," and under their successful manipulations have greatly increased in beauty and variety. To hybridize the seed, the flower must be covered with a piece of the sheerest muslin, to prevent the intrusion of insects, and its antlers must be cut away with a small pair of scissors, before the pollen shows itself. Another very fine flower of different species must be selected as the male parent of the hybrid, and as soon as its antlers have burst and are covered with the flowery-looking substance called pollen, they must be cut off and placed on a small saucer and carefully covered up for use. The stigmas of the seed-bearing plant which were cut off, must be closely watched, and when they appear a little swelled and have become viscid at the point, the pollen must be applied with a fine camel's hair brush. After this process the gauze must be again tied over the flower and kept there until it has faded away. Then take it off, but tie it about the stalk so as to mark it from other plants. The pollen once gathered, will retain its fertilizing properties for months, but the moisture on the stigma of the flower continues but two or three days, and must receive the pollen as soon as it appears. It is in this way that rare seedlings are produced. A hybrid is the mixture of two species; a cross is a mixture of varieties.

This process requires patient watching and careful attention, but often the cultivator is amply repaid for all his care.

The gladiolus requires a light sandy and yet rather strong soil. A mixture of one-half light, sandy loam, one-quarter leaf mould, and one-quarter peat, suits them exactly. They are to be found in all shades of white, yellow, orange, rose, scarlet, crimson and purple, either as self-colored flowers or flamed, blotched or striped with one or more shades of these colors upon some one ground color.

The bulbs can be planted out singly or in groups of three or five. They should be planted from two to four inches deep, according to their size, and as they grow up should be staked and carefully tied up. They will not outlive our cold winters, and after the frost has cut down their leaves, must be taken up and the stems cut off an inch or two from the bulb. Put them into paper bags and keep in any warm, dry place.

These bulbs vary in price from ten cents to five dollars or more each; but the high prices are no surety of their exceeding beauty, as they are connected with new varieties, whose value consists in their comparative scarcity. Many of the low-priced varieties are quite as beautiful.

The following selection can be bought at prices varying from ten to thirty cents apiece: Aristote,—blush-pink, tinged with violet and flaked with rosy scarlet. Agla,—salmon-pink, flaked with carmine and shaded into deep orange. Brenchlevensis—deepest scarlet. Berenice—rose color, flaked with red and feathered with deep maroon. Couranti fulgens—bright crimson, shaded to maroon. Don Juan—rose, mottled with crimson and shaded with yellow. Endymion—pink, flaked with crimson and edged with rose. Galathea—pale flesh color, flaked with crimson and tinted with buff. Imperatrice—black-white, flaked with rose, and feathered with crimson. Madame Haquin—blush, flaked with purple, and shaded with yellow. Napoleon Third—brightest of scarlet, striped with maroon and yellow. Premices de Montrouge—bright scarlet, shaded to rose. Tigridias, or Mexican Lilies—one of great beauty, and of the most brilliant colors. The flowers are most singular in shape, the petals very much reflexed. They are not able to endure our winters, and must be treated like the Gladiolus during that season.

Tuberose need to be started early in March to bloom in August and September. They require very much the same treatment as the Gladiolus, excepting that the bulbs must be kept in a warm closet during the winter. They will lose their germ of life if at all chilled. The bulb never blooms but once, but it sends forth numerous off-sets which will bloom in two or three years. These should be grown in a bed by themselves, set in rows a foot apart, and many of them will bloom the following summer. There is no flower that ex-

cels the *Tuberosa* in the purity of its bloom and the exquisite delicacy of its perfume.

The *Amaryllis formosissima*, or Jacobean Lily is a beautiful bulb, which grows from ten to twelve inches high and bears two flowers on its stem of most peculiar shape, and of the richest crimson color. They bloom in August and September, and should be treated like the *Gladiolus*.

The common white Day Lily is more lovely to us than its more brightly blooming sisters. Its snowy white flowers open every morning, freighted with the rarest fragrance and unequalled in purity and beauty.

We have mentioned only a few of the summer Flowering Bulbs, and those most commonly cultivated. The catalogues offer us a long list of rich rarities, both in colorings and perfume.

"Look at the lilies, how they grow!
'Twas thus the Savior said, that we,
Even in the simplest flowers that blow,
God's own watchful care might see." S. O. J.

For the New England Farmer.

DRAINAGE.

In looking over my file of NEW ENGLAND FARMERS, (Monthly for 1870, page 419,) I see the letter of Mr. John L. Jones of Ripley, Me., asking for information in relation to underground drainage of land that has a tight pan subsoil. Having had some little experience in the draining of land, I beg to offer a few remarks, and if too late to be of service to the inquirer, it may assist some other brother farmer whose land wants draining.

There are lots of farming pamphleteers, some of whom know about as much of the practical part of drainage or farming as an ass does of snipe-catching,—their object being to sell their books. But give me the writings of a practical farmer who is not ashamed to sign his name in full at the end of the article he writes in any paper.

Judge French's *Work on Drainage* may be an excellent work; but he can't seem to quite understand stone draining. With all due deference to that gentleman's judgment, as also to that of the worthy editor, I cannot but differ in opinion with both. In the first place, Judge French must think but very poorly of farmer's common sense to imagine any one who knows peas from beans would ever think of putting in a drain only a foot deep.

From the tenor of Mr. Jones' letter, he is for economy as well as durability, and to go upon Judge French's plan, would be pretty near as expensive as having draining pipe or tile by railroad. To say the least of it, it could not be done without some considerable extra expense that would be altogether useless in a stone drain. Then to talk of filling in with shavings. Farmers have not always planing mills upon their farms,—at least not up in this Western country,—to supply such a com-

modity, and which would in a short time rot out and the soil sink that thickness.

Perhaps Judge French is *not* aware that if a drain is dug four or five feet deep in hard tight pan, as it is called, and the soil thrown in again without stones, poles, tiles, or anything else, that that land for several feet on either side, will drain to a great degree, though not sufficiently to insure good crops in wet seasons. But if stones are thrown into the drain and adjusted a little, with small stones scattered on the top to fill in the apertures between larger ones, and if there is only a very trifling fall, a permanent drain is secured, one that will last for years,—I may say for generations to come, and drain the land effectually from eight to ten feet on each side. These need no shavings, no hay, no nothing. The soil will naturally set in solid on the stones as well as on shavings. So far from the small stones being injurious—they would be beneficial, by helping the drainage.

Neither do I agree with our worthy editor in respect to the smaller stones being a nesting place for moles. I don't just see the point. I think that the moles would have better working stuff in the hay, shavings, or turf. Possibly the water may flow down through the mole holes for a short time into the stones below, but they would soon fill up, but not be so likely to stop the drainage as if made according to Judge French's plan of a duct or culvert.

When tiles and stones are not easily get-at-able, land can be drained with poles, which will last for many years. I have drained with six or more poles and find it to answer. I put in the bottom of the drain three poles or young oak trees, with the roots on, then lay two and then one, placing them in the drain with their end down hill, putting at the outlet some roots with pole cut off, to keep the mouth of drain open. With regard to the course the drains should run. If the land falls from north to south and east to west, it matters not if some drains are put in each way so they can empty freely. In some cases a larger receiving-drain is needed to conduct and carry off the water from the smaller drains. JOHN WHATMORE.

Bridgnorth Farm, Ill., 1871.

REMARKS.—Our correspondent evidently misapprehends the directions of Judge French. We conclude that an unfortunate sentence of ours misled him. We, not Judge French, made the remark, that,—

"A drain between three and four feet deep will be more sure to carry the water freely, and will be much more permanent, than one laid a foot or more less."

Instead of intending to recommend drains "only a foot deep," as friend Whatmore seems to have understood us, we wanted to

say that a drain between three and four feet would give better satisfaction than one between two and three feet deep; or as we expressed it, "a drain between three and four feet deep will be more permanent than one laid a foot or more less" in depth than three or four feet.

We have a high respect for the opinions of our correspondent on agricultural matters generally, and particularly in respect to land drainage, as he was brought up in England where this branch of farm improvement has received more attention during the last fifty years, than in any other country with the exception perhaps of a small portion of Germany, and as he is now engaged in the practical cultivation of an Illinois farm. Whether he agrees or disagrees with Judge French or others who write for the FARMER, either as correspondents or as editors, Mr. Whatmore's suggestions will be equally acceptable. None of us should forget that in all our association with our fellow men we are both teachers and learners. The good book intimates as much in the declaration that "He that is first in his own cause seemeth just; but his neighbor cometh and searcheth him." All of us need "searching," and none perhaps so much as editors.

CUTTING AND CURING HAY.

At a late meeting of the Union Farmers' Club of Lenox, Madison Co., N. Y., the subject of "Cutting and Curing Fodder" was considered.

Mr. Ralph H. Avery recommended that clover, especially the small, be cut when about half the blossoms have appeared, but not when wet, or when the dew is upon the grass. When cut and little wilted, I put it in small cocks with a fork, and there let it remain several—say two or three—days, and then turn the cocks over, and stand a day or two longer. If there has occurred a shower of rain in the time, the cocks being small, it will dry out. Clover cured in this way retains all the leaves and flavor, and will be relished by any kind of stock. When fed in winter to cows they will give nearly as much milk as when at grass, and if kept in a warm stable, as they should be, for calves, colts, sheep or horses, it is a most excellent fodder. My rule for cutting timothy is when, *and just when*, the first blossom has fallen and before any appearance of seed. Then cut after the dew is off and grass dry. Cock up when well wilted—not cured to dryness—open the same an hour or so in

the sun the next day, and then draw in the barn,—the barn to be a snug one, with ventilation only through the roof, keeping barn doors always closed, except when obliged to be open while drawing in the hay. If hay has no *water* in it, except the juices in the grass, when cut, and is well wilted, and has had a chance to sweat in the cock, and is placed in a snug barn, I have no fear of its being burnt in the mow or from mould, but if cut early, and cured and stored as stated, I am always sure of having hay that my stock like; my cattle keep in fine condition, hair bright and lively. In addition, I believe a timothy meadow cut thus early, will retain a thicker sod and improve, whereas by not cutting the grass until the seed is ripe, on some land the meadow will run out, and the owner be obliged to plough and re-seed; but by following the system of mowing thus early, and an occasional top-dressing of manure, a meadow will improve and be better from year to year. Medicinal herbs, when cured so as to retain their aroma and virtue as herbs, are always gathered when in flower, and are never dried in the sun. So grasses should be cut when in flower, and cured so as to retain that fine color and flavor which every intelligent farmer likes as well as his stock does. Any farmer who follows this practice and notices the result, will never again wait for grass to ripen the seed before cutting, as is too often the practice.

General Bruce thought early cut grass the best, and in curing it the less sunshine and the most air on it, the better, and that it should be cured before going into the barn. In regard to young grass, he gave it as his opinion that cows liked it the best, and that it brought more milk.

The discussion having closed, the question of early, medium or late cutting of grass, &c., was put to a vote, when the question was decided in favor of early cutting by a large majority, a few being in favor of medium, while none were in favor of late.

At a meeting of the Guilford (Chenango Co., N. Y.) Farmers' Club, June 10, the same subject was discussed.

Mr. Wm. Jewell stated that in the absence of his personal attention in the securing of his last hay crop he had suffered largely, and his stock still worse, and that in the future this must be attended to if much else is neglected, and asked what the amount would be in Guilford if the hay crop suffered in value three or four dollars per ton, in being cut too late or improperly secured? He says it must be cut early.

Mr. Edward Jewell said he wanted his hay to be put in early, and in a manner that it would heat and press together firmly without any water upon it, or but little sun, and then close the barn and exclude the air as much as possible. In this the chair agreed with him.

Mr. H. A. Burlison also agreed that it must be cut early, but would like all cocked one

night in the field before putting in the barn. He also urged the use of the hay tedder, and thought its use added materially to the worth of every ton of hay, as its drying was more equal and more dried by the air than by long continued rays of the sun,—no one disagreeing with him in this respect. All spoke highly of the tedder who had used it.

Messrs. More and Rood thought it a good time to cut grass late in the afternoon, that it might be secured earlier the next day, as there would then be no dew on the grass or under on the ground, and if it rained the next day it would not be hayed to hurt it, and many times escape showers thereby.

BEE MATTERS.

The following article was written in reply to inquiries that had been addressed personally to the writer:—

Substitute for Pollen.

The best substitute for pollen that we have yet tried is rye flour. It should be ground very fine and not bolted. To feed it advantageously, take a board a foot and a half wide by three feet long, and nail to its sides thin strips about four inches in width. This will make a shallow box of three inches in depth. Now pour in the flour to the depth of an inch, and set it in some place near the apiary, out of the wind. Rye flour fed in this manner induces early breeding, and consequently early swarming. It should, however, be fed early in the season, before the bees can get supplies from natural sources.

Distance apart for Hives.

As bees are ordinarily kept, they should be set at least twenty feet apart. Especially where natural swarming is allowed, the hives should be set as far apart as they can be conveniently. When hives are crowded close together there is great danger that the young queens will be lost when returning from their "wedding flight."

Number of Queens in a Swarm.

In ordinary cases but one queen issues with a first swarm, and that is the old one. Second and third, or after swarms, often contain several queens. When unfavorable weather delays the issue of after swarms for several days they are almost sure to contain several queens. I have known as many as twelve queens issuing with a single swarm.

Weak Colonies.

There are many reasons why swarms of bees are weak and feeble, and consequently unprofitable to their owner. There are thousands of hives that contain too much *drone comb* for profit. This is especially true of box hives. Another and common cause of feeble swarms is small and unprolific queens. Where bees are kept in small numbers and in isolated situations, the queens are apt to meet with

drones from the same hive, which results in "in-and-in" breeding. Colonies that are weak in spring, if they have a good queen and plenty of good worker comb, can be built up by a regular and judicious system of feeding. If they are in movable comb hives a frame of comb may be occasionally exchanged with one taken from a strong stock containing brood that is nearly mature. To all apiarists who do not find their bees a source of profit, I would urgently recommend the Italian bee. Procure a pure queen from some reliable dealer, and rear all queens from this one, paying no attention to what drones they meet. In this way you will have colonies which will be prolific in both bees and honey, provided they receive proper care and attention.

Bees Deserting their Hives.

Many bee keepers complain of bees deserting their hives. Often when bees are hived in swarming time they will stay but a short time and take "French leave" for the woods. A common cause for this is that the hives are left exposed to the direct rays of the hot sun. If the hive be new and clean and is kept cool, but few swarms need be lost in this way. Those who adopt artificial swarming have no trouble with their bees leaving, as an artificial swarm, properly made, *never leaves its hive*.

Transferring Bees.

The best time for transferring swarms from box to movable comb hives, is, in our opinion, when the apple tree is in blossom. It is also a good time three weeks after swarming, as the combs contain but very little brood at that time. Select the middle of a fine clear day in which to perform the operations, and, removing the hive to be transferred, setting an empty hive or box in its place, for the returning bees to cluster in, blow a little smoke in at the entrance of the hive, and turn it over, bottom side upwards. Now place a box without any bottom on the hive and if there be any crevices where bees can escape, tie a cotton sheet around them where they come together.

Now with a couple of light sticks rap on the hive, and the bees will begin to ascend into the box. When the bees have nearly all ascended, which will be in about twenty minutes from the time the drumming was commenced, untie the sheet and remove the box, setting it on a board so that the bees cannot get out. Now take the old hive to some convenient place—a clean barn or shop floor being as good as any. With a chisel and hammer pry off one side, and with a long, thin-bladed knife cut out the combs one by one. Have a smooth board a little larger than your combs, and lay a couple of thicknesses of flannel cloth upon it; then as you cut out each comb, brush off the adhering bees and lay it upon the cloth. Now place your frame upon the comb and mark the size of the inside of the frame. Cut the combs a trifle larger, so

that it will fit snugly within the frame. To hold the combs in place, we use a mixture of melted resin and beef tallow, applied to the edges of the combs.

All combs containing brood should be placed together in the centre of the hive. Reject all drone comb. When all the frames are full, carry the hive and place it upon the old stand, being careful not to dislodge any of the combs. Now bring the box containing the bees and shake them down in front of the hive, and if the entrance be large, as it should be, they will readily enter. In transferring, care must be used not to expose any honey where the bees will find it, or robbing will generally be the consequence, unless the flowers are yielding an abundance of honey.

Prevention of Swarming.

We have not as yet found any method whereby swarming may be *absolutely* prevented, if the bees are kept strong in numbers. Remove the old queen, and give the colony a young one of the present year's raising; and if the bees have plenty of surplus room, easily accessible, but few swarms will issue. If artificial swarms are to be made, it should be done early—as soon as the bees are strong in numbers, or just before they would issue naturally.—*Herbert A. Burch, in Rural New Yorker.*

For the New England Farmer.

HARVESTING HAY.

Haymaking is again upon us, and with no more than half a crop to secure, it becomes of the first importance that we make what we have of the greatest possible value. How shall this be done? is the important question. Much has been said and written of late about curing hay in the mow; much experience has been given and many results, which at first appear contradictory, have been reported by men of the highest standing both as gentlemen and as farmers.

Your readers have noticed some extracts by "Z. A. G.," in the issue of June 24, from Col. Stewart, of Farmington, as reported by the Secretary of the Maine Board of Agriculture. Now, if one is to copy Col. Stewart's plan and expect like results, he must observe to the letter all his conditions. First, no grass cut till the dew is *entirely* off; secondly, all the hay or grass to be in the mow before the dew begins to fall; to be thoroughly wilted and got in when warm; thirdly, the hay to be packed away snug and covered with a sweat blanket of old hay or straw thick enough to absorb all the moisture arising from the green hay.

Now, gentlemen, follow Col. Stewart's instructions as closely as you can,—take your grass as you find it upon your farms and put it into your barns in the first half of July, and I will warrant that two out of every three of

you will just about spoil your hay. How shall this be avoided? Please lay down this paper and take up the issue of June 24, and read carefully the second article upon the first page (from Gov. Brown, I suppose,) read it two or three times, so as to take in the details, then cut and cure your hay in strict accordance with those instructions, and I will warrant each of you to save your hay in perfect condition.

I do not believe in drying hay too much, or in letting it lie in the swath or windrow over night; but from the observation of a life time, and the experience of twenty-five years, I am satisfied that ten tons of hay are every year put into the barns of Maine dried too little, for every one dried too much.

Remember, that with whatever system you adopt, success depends upon care and faithfulness combined with good judgment.

D. H. THING.

Mt. Vernon, Me., July 3, 1871.

For the New England Farmer.

CROPS IN MERRIMAC COUNTY, N. H.

I have just been taking a drive through some of our adjoining towns, and I send you my observations relative to the crop prospects.

I never saw grass looking so poorly. Many fields would not begin to pay for mowing in an ordinary season. The rains for a week or two past have helped many fields, but if we had had all the rain we asked for, the hay crop would have been far below an average. I noticed a few farmers have taken the advice, so often given by the NEW ENGLAND FARMER, to sow fodder corn to meet the emergency next fall and winter; but it is surprising to see how few appreciate a good field of fodder corn, or take any measures to guard against the scarcity of fodder next winter.

Corn is looking poorly, as a general thing, from the fact that it did not come up well, on account of the drought. Wheat and oats are looking finely. The Early Rose potatoes are in full bloom and look well. Oronos are too long coming up, the drought has had more effect upon them, and many hills are missing. A larger area has been planted than usual.

Fruit, there is none of any kind; even the small wild berries are among the missing. The black and striped bugs have made fearful work among the vines, and the cut worms mow everything before them in the shape of garden truck.

Wool is all picked up. A few farmers who do not take the NEW ENGLAND FARMER sold for forty-five cents, but the most of it was bought at fifty cents per pound. On account of the low price of wool last year, many farmers sold off their best sheep to the butchers, and kept the scallwags. Now they see where they missed, and are willing to own it; but how many will profit by it?

Agricultural Fairs.

The Directors of the Merrimac County Agricultural Society held a meeting at Concord, June 26, and voted to hold their Fair on their Park in Concord, Sept., 21, 22, 23. A liberal premium list has been prepared, and it is hoped a spirit of emulation will be awakened by the farmers in the county to obtain them. We want the farmers to visit the fairs, become members, take their families, and consider it their holiday. But this is not all, we want every farmer that goes, to take along that nice trace of seed corn, or some of that nice wheat, or oats, or those big potatoes, and beets and turnips, or drive down those nice oxen or that cow which you brag so much about; exhibit the butter and cheese your wife or sister has made; let the wives and daughters carry those nice rugs and quilts they have been making; in fact, carry anything you consider nice, and then we shall have a fair that will be a credit to us as farmers, in each of our respective counties, and we shall not go away grumbling and dissatisfied, and feeling that the whole thing is a humbug, and that we have got better stuff at home. And then if you fail to get a premium, ascertain how your competitor managed his crop or article to get a better one than yours, and make a resolve to beat him next year if possible. In this way our fairs will become interesting, profitable and instructive.

S. C. PATTEE.

Warner, N. H., July, 1871.

For the New England Farmer.

DRAINAGE OF DRY SOIL.

The remarks of "A Fireside Farmer" on "Drainage of Light Soils," in the *FARMER* of June 24th, has brought to mind a few facts that may interest some of your readers.

Although not a fireside farmer, an ex-governor, nor a general, yet my practice as an out-door farmer will prove just as much as though all the above titles were attached to my name. Therefore let me say, to begin with, that I am a believer in both thorough draining where there is anything to drain, and irrigation where it is needed and can be applied.

Sixteen years ago, when I came upon the farm, there was in one part of it, a fine field of about three acres, with a place near the centre of about one-eighth of an acre, where the water stood nearly through the year, among bogs of bulrushes and other wild grasses, and inhabited by frogs and their usual attendants.

This place had formerly been drained, in part, by digging through the east bank about four rods. This drain was found to be closed. It was taken up and lowered, so that the drain is now about six rods long and from one to four feet below the surface. The bogs were taken out and the surface of this unsightly

spot was smoothed, and ever since it has yielded a good crop of grass.

No one passing over this drain when covered with grass or with any other crop can tell where the drain is by the appearance of the crop, but below the outlet for some rods there is a great improvement.

Another case. A portion of a field of seven acres, laying on a rise of ground descended a little to the east and more to the north, was so wet that the grass would winter kill. Through this we put three drains, about thirty rods long each, with side branches as was thought necessary. The outlets to these drains are under a stone wall upon the upper side of another field that has been mowed for eighteen years, and only top-dressed three times, and for a number of rods below these outlets the grass is thick and rank enough; this field being what may be called good corn land. The field above, that was drained, has been planted and sowed to a great variety of crops, which have all proved perfectly satisfactory.

Now for "A Fireside Farmer's" theory and the ex-governor's practice. If his drains were shallow where they pass through the light soil, would not the water passing through them have the same effect upon vegetation at the surface above those drains as it would have had if the water had been discharged upon the surface?

To prove the universal drainage theory to my mind, Ex-Gov. Smyth should put in a drain by the side of his others through the dry portion of his field without extending it into the wet portion; then take another strip of dry land and work it up, say two feet deep, and treat the surface of each of these as he did those drains above referred to. In this way it will be shown whether the extra growth of grass is the effect of the drain alone, or the moisture from the water passing through the drains under the surface, or the working over the soil, or all together.

C. E. K.

Dudley, Mass., July, 1871.

TRANSPLANTING PLANTS.—I recently saw an item recommending transplanting plants at night, to prevent wilting. Wilting, and other injuries from the hot sun, are entirely overcome by my method, which is as follows:—Dig a small hole in the ground, turn in some water and then some rich soil, stirring until a moderately stiff batter or mortar is formed—stiff enough for it to adhere when the plants are placed in it. Now take, say a dozen plants at a time, and immerse the roots in the mixture, when, if properly done, the roots will be covered with mortar. Set the plants where they are to grow; use no water—no matter how hot the sun is—for wilting will hardly be perceptible, and none will die. Where a great many plants are to be set, the mixture may be placed in a vessel, to have it portable, as the plants should be put in the ground as fast as taken from the mortar.

The object in using rich earth is two-fold; it both retains moisture and acts as a fertilizer. All kinds of plants may be set in this way.—*Western Rural.*

JULY.

BY JOHN CLARE.

Loud is the Summer's busy song,
The smallest breeze can find a tongue,
While insects of each tiny size
Grow teasing with their melodies,
Till noon burns with its blistering breath
Around, and day lies still as death.

The busy noise of man and brute
Is on a sudden lost and mute;
Even the brook that leaps along,
Seems weary of its bubbling song,
And, so soft its waters creep,
Tired silence sinks in sounder sleep;

The cricket on its bank is dumb;
The very flies forget to hum;
And, save the wagon rocking round,
The landscape sleeps without a sound.
The breeze is stopped, the lazy bough
Hath not a leaf that daneth now;

The taller grass upon the hill,
And spider's threads, are standing still;
The feathers, dropped from moorhen's wing
Which to the water's surface cling,
Are steadfast, and as heavy seem
As stones beneath them in the stream;

Hawkweed and groundsel's fan'y downs
Unruffled keep their seedy crowns;
And in the over-heated air
Not one light thing is floating there,
Save that to the earnest eye
The restless heat seems twittering by.

Noon swoons beneath the heat it made,
And flowers e'en within the shade;
Until the sun slopes in the West,
Like weary traveler, glad to rest
On pillowed clouds of many hues,
Then Nature's voice its joy renews,

And checkered field and grassy plain
Hum with their Summer songs again,
A requiem to the day's decline,
Whose setting sunbeams coolly shine
As welcome to day's feeble powers
As falling dews to thirsty flowers.

BREAKING HEIFERS TO MILKING.

Frye, Jr., writes as follows to the Lewiston, Me., *Journal* :—

All domestic animals require some sort of training or education. The steer may require more training than the heifer, because the uses are varied to which he has to become accustomed to make his labor "skilled" and practicable. While the cow may not need to be schooled in these higher branches of *practical studies*, she should be taught that to stand quietly while being milked, and to "hoist" the right foot and place it back of the other, are virtues to be commended and rewarded by kindness, at least. No animal should ever be allowed to pass their first winter without being thoroughly "halter broke," so they can be led by the horn, or with a rope around the neck, gently and peaceably. Doing this when they are young and easily handled, it saves a

vast amount of subsequent hard work and perplexity, and, may be, the animals many kicks and blows. There is a great difference in teachers in this kind of science as well as in the four-footed pupils. Some teachers I have seen did not evince half the sense as the cattle they undertook to train. On the other hand, there are some animals so perverse or *non compos mentis*, that it seems almost impossible to teach them the first rudiments of good manners. But, certainly, in most cases there is nothing gained by letting them grow up in these uncouth ways, thinking to take them in hand at a later day. *Train while young* should be the motto of the barnyard.

Many an otherwise excellent milker is spoiled for life by harsh treatment. It is better to govern by gentleness and kind treatment than by harsh means and fear of the master. A heifer if well broken to the milk-pail, is thereby made worth at least twenty-five per cent. more,—an increase which will pay for much painstaking. The handling of the udder and the process of milking is a very unusual proceeding, and in addition, the teats are often tender, and the bag eaked and inflamed so as to be painful under even the gentlest touch. How often when in such a condition from pain and apprehended danger, she almost unconsciously lifts her foot and knocks over the milk-pail, and perhaps hits a well-deserved "thwack" upon the shins of the bungler upon the milking stool, and then kicks and bruises are freely interchanged between the frightened brute and the irritated master.

First teach *all* your animals to love rather than fear you. Learn them to welcome your coming, by presents of a nubbin of corn, an apple, a little salt, &c., on all occasions when practicable. Handle them freely, and get them accustomed to your touch, by rubbing and scratching them. Heifers thus accustomed to being handled, will soon come to seemingly like the operation of milking. I once had a heifer that from having exceedingly sore teats, contracted the habit of running away from me, when milked in the yard, before the milk was half drawn. All my endeavors to break up the habit failed till, as a last resort, when she started away from me, I caught up the pail with one hand and seized one hind leg with the other, and held on firmly. After hopping a few steps, and some pretty severe kicks and jerks to free herself were made, all to no purpose, she "accepted the situation," and calmly submitted to the process till milked clean. Two or three such lessons cured her entirely. Such usage would probably have frightened her and made the habit worse had she been unaccustomed to being petted and handled. But a few lessons gave her an understanding of what was required, and subsequently any attempt of a repetition of the misdemeanor would be suddenly checked by merely placing my hand gently upon her leg.

It is very important that cows of any age be milked clean; but more especially should this be practiced with heifers. One of the secrets of butter-making lie just here. I need not tell those that are used to the care of cows and dairying that the last drawn gill is nearly all cream, and when one of these little measures of milk is left in the udders of several cows, as a careless milker will often do, no insignificant quantity of the richest milk is lost every day.

But this is not all or perhaps the greatest loss. Leaving milk in the cow's bag has a most deleterious effect upon the cow. Undoubtedly many cases of garget might be traced to this neglect. And the habit, if persisted in any length of time, will cause a gradual falling off in the milk, and the cow will be very unlikely to regain her full milking powers again. This matter is worth more than a casual thought. Heifers, the first year of their coming into the dairy, should be entrusted to no inexperienced or careless milkers. A good milker will draw the milk in silence and quickly. Never allow yourself to leave a cow half milked, and then return and finish, thinking to get the full complement that the cow would give. This habit is nearly as bad as the one spoken of above, and its practice brings about the same results. By such means heifers often contract the habit of withholding their milk; a most perplexing habit and often not easily cured. A good milker will attend to his work and draw the milk clean as quickly as possible and establish the habit of giving down freely—a valuable item in a young cow.

HOW TO GET PLENTY OF FRESH EGGS.

In a long communication to the *Germantown Telegraph*, upon the subject of poultry, Mr. E. Dwight, of Hudson, Michigan, considers the question, "How to get plenty of good flavored fresh eggs with little trouble," and thinks if there is any secret in it he has discovered it, and makes the same public for the benefit of all interested. He says:—

"Once, thirty years ago, I was troubled just as my neighbor now is. I fed my hens plenty of corn and got but few eggs. I reasoned upon the matter, and happened to think that the constituent parts of milk and the white of eggs were much alike. Now, it has long been known to milkmen that wheat middlings and bran are about the best of any feed to make a cow give milk; why not then the best to make the hens lay eggs? I tried it, and since then have had no trouble. My mode of preparing the feed is to mix about five parts of bran with one of middlings. In the morning I wet up with water about four quarts of the mixture in a large tin pan, taking pains to have it rather dry, though all damp. This I set in a warm, sunny spot, south of their shed, and they walk up, take a few dips, don't seem to fancy it like

corn, and start off on a short hunt for something better, but always coming round in a short time for a few more from the dish of bran. There is little time during the whole day but what one or more are standing by the pan, and helping themselves.

I am careful to mix for them just as much as they will consume during the day. At night, just before they repair to the roost, I usually throw them about a pint of shelled corn, well scattered, so that each one can get a few kernels. If your hens don't incline to eat this feed at first, sprinkle a little Indian meal on to it. I would like all who complain of not getting eggs, to try my plan, and I think they will never be sorry.

LINSEED TEA FOR SICK HORSES.

Linseed tea is not only valuable as a restorative for sick horses, but is exceedingly useful in cases of inflammation of the membranes peculiar to the organs of respiration and digestion; it shields and lubricates the same; tranquilizes the irritable parts, and favors healthy action. We have prescribed linseed tea in large quantities, for horses laboring under the prevailing influenza; they seemed to derive much benefit from it, and generally drank it with avidity. Aside from the benefit we derive from the action of mucilage and oil which the seed contains, its nutritive elements are of some account, especially when given to animals laboring under soreness in the organs of deglutition, which incapacitates from swallowing more solid food. In the event of an animal becoming prostrated by inability to masticate or swallow more food, linseed tea may be resorted to, and in case of irritable cough, the addition of a little honey makes it more useful. In the latter form it may be given to animals laboring under acute or chronic disease of the urinary apparatus, more especially of the kidneys. To prepare linseed tea, put a couple of handfuls of the seed into a bucket, and pour a gallon and a half of boiling water upon it. Cover it up a short time, then add a couple of quarts of cold water, when it will be fit for use.—*American Veterinary Surgeon*.

—Hatfield, Mass., farmers are trying a novel mode of fertilizing their crops. L. G. Curtis tried sowing Indian meal on his tobacco land last year, side by side with guano, and was so well pleased with the results that this year he sowed ten tons on his tobacco land, and J. S. Graves is trying cotton seed meal for the same purpose. Fitch Brothers are making an experiment with barley meal. Wheat bran is said by the "scientists" to contain most of the elements of the wheat which are found in phosphates. If barley meal proves to be a good fertilizer, buying the grains from breweries, which are sold for eight or ten cents per bushel, would certainly be a cheap mode of enriching the soil.

CLASSIFICATION OF SOILS.



WHEN farmers are conversing with each other with regard to *soils*, or discussing questions relating to them in their clubs, there seems to be no well understood, common standard among them, whereby each may comprehend at once, the kind of soil spoken of.

Six divisions have been adopted by those who have investigated the matter. These are rocky soil, stony soil, gravelly soil, sandy soil,

loam and clay soil. When lands are so rocky as to be unfit for cultivation, they scarcely come under the term of soil, although they often produce heavy crops of wood and timber. But they sometimes materially benefit the crops in their neighborhood by the influence produced from their shade, moisture, and protection from winds. Their gradual decomposition furnishes a certain portion of lime, potash and other fertilizing materials, which are washed down, and greatly contribute to the support of vegetation which is within their reach. The mosses which rest upon these rocks and cling to their sides, may appear to the beholder as worthless vegetable life.—But it is not so. They are living, active organisms, penetrating every fissure of the rock, and imperceptibly corroding the solid structures and preparing them for future usefulness in soils, or composing soils themselves.

There are some other soils, peculiar in themselves, such as what are denominated peat or vegetable soils, or the prairie soils, which have been annually burned over for ages, and are highly charged with ashes and alkaline salts.

Some simple distinctions ought to be assumed for reference, and in order to gain these Professor Johnston has presented a classification of soils which is based principally upon these chemical constituents. These are

1. Pure *clay*, consisting of about sixty parts of silica, that is, flint, and forty parts of alumina,—which is a common ingredient of

clay—and oxide of iron. When this earth is passed through water, no silicious sand will settle at the bottom, and it rarely forms any extent of soil.

2. Strongest clay, tile clay, sticky clay, consists of pure clay mixed with five to fifteen parts of a silicious sand—that is, flinty sand.

3. *Clay loam* differs from a clay soil, in allowing from fifteen to thirty parts of fine sand to be separated from it by washing. By this larger admixture of sand, the clayey parts are mechanically separated, and the soil becomes of a more free and friable nature.

4. A *loamy* soil, upon washing, will leave from thirty to sixty parts of sand on the bottom of the vessel in which it is washed.

5. A *sandy* loam will leave from sixty to ninety parts of sand.

6. A *sandy* soil, or light sand, as it is called, would have less than ten parts of clay. Such a soil, if worthy of the name, would scarcely produce any compensating crop.

This classification may easily be made by means of simple washing. The soil should first be dried, and then after boiling in water should be thoroughly stirred in some convenient vessel. The sand will settle first, and when it is at the bottom the liquid alone, holding the fine clay, &c., in suspension, may be poured off; when this has been done a few times, nothing will remain at the bottom of the vessel, besides nearly pure sand: this may be dried and weighed, and the quantity will indicate to which class of the above the soil belongs.

But the above classification has referred only to the clay and sand, while lime is an important constituent of soils, and of which they are seldom entirely destitute.

7. *Marly* soils, in which the proportion of lime is more than five parts, but does not exceed twenty parts of the whole weight of dry soil. The marl is a sandy, loamy or clay marl, according as the proportion of clay it contains would place it under the one or other denomination.

8. *Calcareous*, or limy or chalky soils, in which the lime exceeding twenty parts in one hundred, becomes the distinguishing constituent. There are also, calcareous clays, or loams, or sands, according to the proportions of clay and sand which are present in them.

Then *vegetable* matter is sometimes the

characteristic of a soil, which gives rise to a further division of

2. Vegetable moulds, which are of various kinds, from the garden mould, which contains from five to ten per cent., to the peaty soil, in which the organic matter may amount to sixty or seventy. These soils are also clayey, loamy or sandy, according to the predominant character of the earthy admixtures.

The *management* of these soils would require quite a diversity of practice, some account of which may be referred to in another article.

THE HAY CROP.

The grass crop of New England, is its staple crop. It not only sustains our domestic animals but, indirectly, sustains man himself. Of the grain crop, we import largely, but we have a surplus of hay, which has always found a demand, both abroad and at home. Thousands of tons have been formerly sent into the Southern States, where the soil, under proper culture, would produce two or three tons to the acre. And yet, Southern planters have had very little land devoted to this important crop. More recently, however, they have discovered that most grasses flourish on their soils, especially those which are dressed with man, vast pits of which exist in various localities, or where some of the phosphoric fertilizers are used. An incident occurred, however, several years ago, in North Carolina, which attracted the attention of planters, and probably had a wide influence in introducing a more general culture of the grasses.

An observing gentleman had been invited to deliver an address before an agricultural association which was to hold its meeting in the city of Raleigh. With his written address in his pocket, he arrived at the city quite early in the morning, and on going to his hotel noticed several drays heavily loaded with bales of hay on their way from vessel to warehouse. On passing through the market-place, after breakfast, he found plenty of New England hay on the stand for sale. Upon inquiry, he learned that large quantities of northern hay were annually brought to that market, and there found a ready sale at an average price of about \$30 per ton!

Ashamed of a practice so common among the planters, of not producing their own hay, and which he had, perhaps, been influential in

perpetuating, he thrust his written address into the bottom of his valise, and devoted the remainder of the time to writing a new one, for the following day. In this he clearly unfolded the favorable conditions of their own soil and climate for producing the grasses for hay crops, and the facilities for enriching the soil. He then presented the statistics of importation, and the annual cost to the Southern States for hay exported principally from New England, and closed with a scathing rebuke for the neglect of the valuable opportunities which they might enjoy. From that period, and especially, quite recently, an increased breadth of land has been devoted to grass crops in the Southern States. Still, however, we are informed, that pressed hay is quite an important article of export from our seaports, and that some portion of it finds its way to our neighbors in those States. While we are thankful for an open market for the surplus products of our farms, we still think the policy of our Southern friends in neglecting the cultivation of the grasses about as wise as that suggested by some of our own people to neglect the culture of the Indian corn crop here. Where soils are suitable, let each section cultivate both.

The season of our hay harvest is near at hand, and notwithstanding the untold amount of experience which has been gained in the matter, a considerable diversity of opinion still exists as to the best modes of curing and preserving it. As its value depends very much upon *the time* when it is cut, it is worth while to give special attention to this point. The true answer to a single question, would be all that is necessary to settle it.

The great effort of nature is in animals and plants, to continue their kind. All sacrifices, and difficulties of every sort, will be encountered, and overcome, if possible, to accomplish this end. So it is with plants. Cut them down in the midst of their vigor; trample them in the dust; deprive them of moisture, or shut them out from the sun's rays, and they will still struggle to throw out a single branch in order to perfect a single seed, if that is all they can do. This is the effort which the grasses are constantly making; for which they attain height, in order to come to light and air; throw out blossoms and pollen to fructify each other. Then the seed is formed,

at the time when the plant has gained its most vigorous growth, and is nearest perfection. The stem and leaves are tender, juicy and rich in nutriment. Now, then, is the true time to cut it—just as soon as the seed is formed. After this, all the energies of the plant are devoted to the perfection of the seed; that must be taken care of. To accomplish this a great change takes place. All the nutriment which the seed needs is sent there, and most of the sugar and starch—the important qualities which we wish to retain—are changed into woody fibre, in order to strengthen the stem, to hold up the seed to the air and light, until the seed is perfected. This is illustrated in the stem of the cabbage, which grows hard as the plant grows older, and the radish is so tough and solid if left to blossom, that it becomes entirely unfit to eat.

We are told upon good authority, that one hundred pounds of timothy hay contains between two and five pounds of a peculiar oil. This, we suppose, is what gives that delicious fragrance to well-cured, early cut hay. In the blades and stems there is much sugar and starch, and a peculiar gum. In grass cut when just going out of blossom, we save all these valuable properties; the very properties that give a rich flow of milk, lay fat upon the ox, or ensure rapid growth to young stock. As the grass ripens, these qualities are gradually changed into woody or cellular fibre, and the sugar and starch its various parts contain are correspondingly diminished.

It is well ascertained, also, that the weight of hay is less when allowed to ripen, so that we get a larger quantity, as well as a better quality of hay, by early cutting, and the land will not be so much exhausted.

It is urged by some that no loss is made by leaving the hay to be cut after the seed has ripened; that which we lose on the quality of the hay, we gain in the seed as a nutritious grain. But from the manner in which grass is cut and cured, much of the seed would be shattered out and lost, so far as feed for stock is concerned. What becomes of the sugar, oil, starch and gum, contained in the grass, if not all appropriated in strengthening the stem and perfecting the seed, we cannot tell. We know, however, that similar changes are constantly taking place throughout the vegetable kingdom.

A single experiment will be likely to satisfy any farmer in regard to this matter. On one acre containing the same quality of grass, cut and cure one half of it, part as the blossom is going out, and cut and cure the other half when the seed has ripened, and notice carefully how the stock receive each. But it should be fed out when all other circumstances are equal, as regards other feed, temperature, &c.

There are two or three other points of much importance in regard to curing and preserving the grass crop, to which we will refer hereafter.

PESTS OF THE FARM.

Owing to the introduction of foul seeds into the various grass seeds sown, hundreds of acres in each of the New England States are covered with plants which greatly exhaust the soil, and yet are good for nothing as summer forage or winter fodder.

These foul plants have now become a matter of serious loss on the farm. In many cases, a piece of land is laid to grass, and yields two or three profitable crops. Some one, or perhaps half a dozen hardy plants appear, and grow with such rapidity that the grass plants yield to them so that the crop wanted is greatly diminished. In the fourth year the grass crop is reduced to less than one ton to the acre, and if the land is not then broken up, the field presents more of the appearance of one of rank weeds than one of edible grasses.

In consequence of the encroachment of these foul plants, ploughing, cultivating and reseeded must be resorted to at a serious inconvenience of cost, in addition to a previous loss of crop for several years in succession. But for the weeds, the field might have remained, if on a moist soil, for eight or ten years, and given an annual paying crop, by the aid of an occasional top dressing.

One of the worst of these pests is sorrel. It is a native of Europe, but has become completely nationalized here. Like some minute insects, as the bark louse, for instance, or the wheat midge, or the little ant that undermines large buildings and brings them to the ground, its power lies in its minuteness and hardness. Its roots permeate the soil in every direction, while the stems and leaves cover the surface,

and drive out nearly every other plant. We know of no means of eradicating it short of thorough and persistent cultivation.

Another of these pests is the white weed of our fields, or ox-eye daisy. Darlington, in his work on Weeds and Useful plants, says, "this vile intruder is becoming a great nuisance in our country. In some districts the careless, slovenly farmers, have permitted it to get almost exclusive possession of their fields, rendering them quite white when the plant is in bloom."

So far as our experience goes, we have found this an utterly worthless plant. Cattle will not eat it, nor horses or swine. It is a tough, bitter weed, and detestable on the farm. It is not only the careless farmer who suffers, but those who cultivate with great care, as well; who think they are sowing pure seed, but find too late, that it was a mixture of abominations. Or, he may sow pure seed, and foul ones may come over from his neighbor's fields and corrupt all his crops. This, too, is a native of Europe. It has one merit. It is large enough to get hold of. It starts in the spring before the grass does, and on a good soil keeps ahead of it. It grows in bunches when it gets a strong hold of the soil, and is two or three years old. It flowers all along from June to August.

Our object in referring to these pests at the present time, is to call the attention of the farmer to them at a season when he has power over the larger ones, such as the white weed, the succory, and five or six kinds of dock weeds, and can commence a war of extermination upon them in his grass lands.

They will be in a rank condition early in June, and about putting forth their first blossoms. They can be plainly seen, so that a person with a sharp hoe can cut up an immense number of them in the course of a day. Striking at their roots at this period of their growth, greatly retards them, so that they will scarcely blossom again until the grass is cut. They are then checked again, but if the season is favorable they will start up and attempt to blossom in the latter part of August, when they should be cut up again.

By some labor bestowed in this way a grass crop may be saved for several years, and thus repay in a four-fold degree for all the cost of checking or destroying them.

For the New England Farmer.

USES OF THE FORESTS.

BY EMORY A. ELLSWORTH.

As our love for the study of the botanical kingdom leads us during the summer months to travel through different portions of New England in pursuit of such representatives of its different orders and genera as can be found within the limits of these States, we likewise notice, and with nearly as much interest, the prevailing modes of operation among the farmers of these different sections.

Among the existing practices so dangerous to the future progress of agriculture, there is none with which we are acquainted which casts upon the path of our agricultural prosperity a more gloomy shadow, and fills the heart of the observing man with deeper feelings of anxiety for our future welfare as an agricultural people, than the thoughtless and wasteful manner in which our hills have been denuded of their forests. The old woods are everywhere being swept away and nothing is being done to check or provide for this removal. How many farmers, in this adjoining States, own acres of land which would be far more profitable to them and useful to the community if restored to the forest, than in its present condition. The raising of forest trees, as a crop, is far more remunerative than the cultivation of many of the crops which are raised on the poorer qualities of land. Many a farmer will smile at the idea of cultivating forest trees; but the period has arrived in their history, when art must come to their aid. If he would see the now naked and barren fields clothed once more in verdure, profitable in itself and serviceable in protecting other things, he must plant and cultivate them as deliberately as he would any other crop.

Now, as the preservation and improvement of the still remaining primeval forests, and the planting and cultivation of new ones, is in the highest degree important to all, and, since an extended and abiding improvement is above private effort, every citizen should do all which comes within his power to bring about this much desired end; and since no observing person can fail to notice the many benefits and uses of the forest to mankind, perhaps the interest and co-operation required to effect this change can be no sooner awakened than by bringing once more to the minds of the people the benefits which have departed as the woods have been swept away.

Among the benefits of the forest to the farmer more than to others, may be mentioned that of creating and gradually improving the soil. Year by year, as the roots penetrate deeper and spread wider beneath the surface of the earth, the air is allowed to penetrate to produce its decomposing effects. The rootlets slowly break up the coarser parts of the soil and extract from them their essential

food, and the leaves, by means of the action of heat and light upon them, transform, in their mysterious way, these substances into the materials of which the plant is composed. And as these leaves annually fall to the earth and finally decay, plant food is prepared to be again taken into the tree. The soil which is thus formed is kept from being carried away by rains by the matting and interlacing of the roots. There is scarcely a person, who can fail to notice, as their attention is directed to it, how soon an unprotected hill loses its soil; as every rain bears away a portion, until in time it becomes a barren and unsightly pile of rocks, with scarcely a sign of vegetation upon its surface.

Now, is not this precisely what is happening all over New England? Look where we may, and the bare and frowning hilltops must remind us that the fertility of former years is fast wasting away. Year by year that thin stratum of soil which hides its formation of rock is becoming thinner. Those naked ledges which are visible upon every mountain summit are becoming more exposed. Every rain which descends upon these hills, carries away a portion of our home and our support; and although a small portion of it may be deposited upon the lower land of the valleys yet the greater part of its fertilizing elements are poured into the streams, and in their liquid torrents it is borne to the vast and all-devouring ocean. Yes, is it not our homes and our support which are thus being carried off? For are not our homes upon the rugged hills of New England, and our support derived from its soil?

Not only does the presence of forests improve as well as protect the soil, but it modifies and improves, and even more materially, the climate. In the first place it renders a climate more moist. This is accomplished in the following manner:—as the clouds pass over the country, laden with moisture and charged with electricity, the forests serve as conductors between these clouds and the earth, thus leading them to discharge their contents upon the face of nature. A few large trees situated upon the top of a hill are sufficient to bring about this effect, as is shown by the fact that a charged cloud passing unbroken over a bare hill will pour down its moisture when passing over one on which a few of these natural conductors still remain.

If a few tall trees are sufficient then to produce this desired effect, many will ask, "Why are these not enough to be withheld from destruction? Why preserve the whole forest, when a grove of well selected trees will answer the demands for the same?" They will not! Let us look a little farther. Suppose this small number of trees will draw from the cloud thus charged, its electricity, and as a consequence, the moisture is precipitated. As the rain descends upon the earth, it naturally seeks the lowest level unless by some

means retarded or detained, and upon this principle, it follows first the little undulations and furrows in the ground, until in time it joins still other rills, until swelling and widening as it goes, it reaches a brook. This in time runs into a larger stream, and thus all the streams are suddenly swollen and more or less damage is certain to follow. It has rained, but all the moisture is gone, and nature soon will be as dry and parched as ever. The rain has fallen, but it has nearly as quickly ran into the sea.

Now let us look at another picture. Instead of these few trees spread about upon the summit of these hills, all the hill tops are covered with forests. Now as the rain falls, instead of running off into the streams, it settles under the decaying leaves and vegetable mould, until it comes to the entangled and twisted mass of roots which support these trees. This mass acts precisely like an enormous sponge, and in its cavities the rain is retained to feed the springs, and thus to water the earth for many months. Thus instead of hurrying away, carrying destruction with it, the water is retained by the forest to moisten and refresh all nature, "when the sultry days of summer are upon the face of the earth."

From the sterility and barrenness of some parts of modern Spain, no one would ever judge that she was once numbered among the most fertile territories of the world, that those bare and naked cliffs and slopes, on whose frowning faces scarcely a living thing is seen, were once covered with lofty forests, and beneath their branches "murmuring rivulets ran joyous to the sea." Yet this is nevertheless true. She was once the pride of her inhabitants and the envy of her neighbors. But by thoughtless hands her hills were stripped of their forest protection, and with their destruction the fertility of Spain departed. And even to the latter New England is following in her footsteps. It is by no flight of imagination that I paint to you this dark and foreboding picture; but it is drawn from the bare page of fact. From the history of Spain, therefore, take warning. It is the work of several centuries to carry this deterioration past restoration, but if not checked it is sure to come sooner or later.

There are many other uses of the forest, such as the protection of the country from the violence of winds, retaining warmth in winter and excluding heat in summer, furnishing building material for ships and houses, which are of great importance but which the want of space must forbid me from more than mentioning. Yet as they are the more commonly thought of, and best understood of these numerous points alluded to, their importance is more readily seen.

And now, as we close this article on the uses of the forest, there is one more point on which, as a plea for the lovers of all that is beautiful in nature, we cannot refrain from

speaking, and that is, the utmost importance of the forest in adding beauty to the country.

A landscape destitute of trees cannot be beautiful in the highest degree, though everything besides which nature could furnish and all which art could add might be present. Are not the striking features of any landscape these old forests? Another reason why trees are so desirable as a means of beautifying the country, is that they are so completely under the control of man. The mountain, lake and river, though objects so full of beauty and sentiment, yet they must forever remain where they were created; but the trees can be moved and transplanted at will, and therefore are among the most useful of the beautiful objects of nature.

Situated near the centre of the temperate zone, we have all the most useful and beautiful of the deciduous trees, as well as the finest of the evergreens, and of all these different kinds, every one has its own peculiar shape and color, flower and leaf.

Autumn, the pleasantest season of the year to so large a majority of the people, would lose almost every charm if the woods should be removed. For beauty of coloring the autumnal woods have no equal. The vivid crimson of the sumach, the rich orange and yellow of the sugar maple, the soft olive tints of the ash, the scarlet, yellow and brown of the oaks, and the gold and scarlet of the flowering maple, are among the splendors unimagined by those who never beheld them. And now, since, together with so many other benefits, the forests are so full of beauty, and since beauty is also usefulness because it sweetens our bitterest cup with pleasure, preserve and cultivate the trees.

THE "HIRED MAN."

We have before us a half complaining letter from a young man who has engaged as "hired man" upon a large farm, in which he recounts his grievances, and wishes us to interpose in his behalf. We do not think any good would come from publishing his letter, either to him nor to our readers. If he has contracted to work eight months at a fixed rate of wages, he must do so, or break his bargain. We do not gather from anything he writes that his employer is at fault in any part of his contract. Our correspondent complains of "hard work and hard fare," which is the sum total of his letter.

Now we imagine his statement is a truthful one, and a sample of too many of the cases existing between farm hands and their employers. We spent a year of our minority at farm work in Massachusetts, every working day of which found us up long before the sun, usually at four o'clock in the morning during the summer months, the day's work ending only when it became so dark we could not see to pull a weed or drive a nail; and the visions

of our cheerless sleeping room, of the fish-hash for breakfast, morning after morning, of the unvaried dinner of fried pork and potatoes, with never a delicacy, of the meagrely-spread kitchen table at which the farm help hurriedly ate their meals, and the unsocial bearing of the man who employed us, who never spoke but to command or find fault—still haunts us as a nightmare. The experience of that year's labor completely fitted us to heartily sympathize with every young man who works from "sun to sun" on a farm, and is obliged to live on fish-hash. We know all about it.

But that was years ago, and was in another State; and we have been told by more than one young man who has "farmed it" in Massachusetts, that farm hands there, as a general thing, work harder, make more hours, and have poorer fare than in Maine. Even among us, things have changed a great deal for the better. Hired men upon most of our farms always eat with the family, and have the same fare. The stories current years ago of the woman who set her table with the poorest food within reach of the hired man, but who would, despite her constant efforts at pushing the plates of common food a little nearer him, reach over them, and help himself to the other, saying, "Don't trouble yourself, ma'am, my arms are long enough to reach all over your table"—are, we feel sure, rarely heard now-a-days. Still, a young man who hires out for a season, to work on a farm, expecting to find easy work and short days, will be disappointed. Farm labor is hard work—there is no getting round it. But instead of being monotonous, it is constantly varied, and is one of pleasure to almost every intelligent person. There must be mutual forbearance and a mutual regard for the good will of both parties, for the employer and the employe to get along pleasantly together. On the one hand the employer must not require more service than is reasonable from the hired man. Although there are times and days demanding harder work than others, yet when these do not occur the employer must "let up a little" on his help. A hired man knows what constitutes a day's work, as well as his employer; he knows when he has done enough, and we would not blame him if he did not submit to being "crowded." Time enough to partake of the daily meals should be given without feeling that the men ought to be at work; and a little time of rest after dinner, when labor is not driving, is by no means lost time, but will be cheerfully made up by longer days or harder work, when required. Farm hands demand good wholesome food, in sufficient quantity; and if an employer fails to provide it, he assuredly breaks his contract. Moreover, no farmer ever lost a cent by giving his hired men a good lunch about ten o'clock of a forenoon in haying time—the recollection of such episodes

being among some of the pleasantest occurrences of one happy summer, when a "hired man" upon a large farm.

On the other hand, the employe must willingly perform the work to which he is assigned. Do nothing by halves; be faithful in the performance of every job; have a personal care over the fields and stock, that your employer suffers no loss or injury through your negligence or inattention, and be willing to "lend a hand" in any extra emergency outside of your regular routine. Services like these will be appreciated by the man who employs you, and you will rarely find cause to complain of "hard work and hard fare."—*Maine Farmer*.

CROPS AS SUBSTITUTES FOR HAY.

In many sections another dry May seems likely to result in a light crop of hay, and a very short crop of oats, and many farmers will need some other crops to take their place. There are several which there is still time to put in, that will answer a very good purpose. The one most generally adopted is

Sown Corn.

There is still time to put in a good supply of this crop. The land can be well prepared, as for a good crop of planted corn, and laid off in shallow furrows with a shovel plough, and the corn strewn in the furrows at the rate of about forty grains to the foot. If the shovel plough has a rather wide blade, and a little more pains can be taken with the crop, fifty or sixty grains may be sown to the foot, making the row of plants somewhat wider; but this should only be done on clean land; where there are a good many weeds it is more trouble to clean out these wide rows. The furrows may be three feet apart from centre to centre, leaving a space of over two feet to be worked with a one-horse cultivator, which should be all the working that clean land will need. A large supply of

Root Crops may still be put in.

It will now be more seasonable for Swede and other turnips, but some mangolds and carrots may be put in if there is suitable rich land that can be soon fitted and sown. Carrots should now only be sown on a deep, rich, well fitted sandy loam; as, unless they thus have an extra chance, it may be too late to make the crop pay. Mangolds will do well on almost any well fitted soil, and are better adapted to the heavier clay loams than carrots or Swede turnips. Still good, deep and well pulverized soils should be selected, as the crop will now have less time to grow in, and should have as favorable chance as possible. At the same time the Swedes should have a rather light soil, as they do best on such land; so where only a rather heavy loam or clayey soil must be taken, it will be best to sow mangolds mainly, but where the land is lighter, more Swedes may be put in. There is still plenty

of time to sow Swede turnips, and most farmers that have a suitable soil will sow the larger portion of land devoted to roots, to the best varieties they are acquainted with.

Millet and Hungarian Grass.

Colman's Rural World, May 27, says, in regard to millet, that

"This is a very valuable animal forage plant. Its stalks and leaves are somewhat like Indian corn, but smaller, grows to the height of three or four feet, bears a long panicle of very solid seed that makes edible cakes. The length of the panicle prevents the entire grains maturing alike, and it is best to cut it when the tips are hard and the base yet in the dough state. It loves warm, rich, and rather sandy soil, but will do on medium clay. Sow broadcast on a very thoroughly prepared soil, but will do on medium clay. Sow broadcast on a very thoroughly prepared soil, at the rate of about a peck to the acre, about the end of May or in June, and you can cut a heavy crop of excellent feed. Some years ago it was sent out at fabulous prices as Japan wheat.

"*Hungarian Grass*.—This is somewhat similar to the last; matures its crop in rather less time; requires thick sowing on fair ground at the rate of a peck or over per acre. It is an excellent forage crop, generally relished by our draft and milk animals, and makes very good returns for the cost and labor expended. If allowed to become quite ripe it sheds its seeds and fouls the land, and if the seed becomes quite ripe it is apt to remain undigested in the stomach of the horse, and cases of death are reported. We have used it and seen large crops used on the farm with great profit and without detriment."

I am aware there may, in many cases, be some difficulty in getting suitable land for these crops that is not already occupied with something else; but sown corn, Hungarian grass, Swede turnips and cabbages, may be put in some time yet, and no doubt there will be some pieces and patches of land that can be well manured and put in to some of them to good advantage. There are often some rich spots around farm buildings where a few hundred bushels of roots may be grown; these places may be weedy, but a well-tended crop of mangolds, swedes or cabbages, will do much to subdue such land. Sown corn and Hungarian grass may be put in some place where the grass or other crop is not doing anything. A few acres that are not likely to produce a crop worth gathering, may be manured, well fitted, and made to give a good crop of sown corn or Hungarian hay.—*Cor. Country Gentleman*.

—Mr. S. F. Lane of Raymond, N. H., informs the *Mirror and Farmer* that he has cut acres of bushes in some of the longest days in June, say about the middle of the month, and finds that is the best season to prevent their sprouting.

AFFECTION'S TRIBUTE.

BY R. P. SHILLABER.

'Twas busy seed-time, yet in many a field
 Labor was stayed, and those whose sturdy hands
 Reckoned to thrift by timely ministries
 Had left their calling, and, in decent garb,
 Thronged onward where the melancholy bell
 Proclaimed the doings of relentless Death,
 To give their sympathy to those who mourned,
 And shed, themselves, a tributary tear
 For one among them who had bowed his head
 To the stern summons, painfully delayed.
 And then, amid the blooming sweets of spring—
 The trees unfolding in the bright array
 That clothes the joyous season—swept along
 The sombre hearse, and the long train of those
 Who mourned, as relatives and friends, for him
 Whose loving eyes had closed to scenes of earth
 To open on the brighter ones of heaven.
 They came from far and near, tender and sad,
 That kind offices on earth to pay,
 And Nature seemed to hush, and hold her breath,
 As on the solemn pageant swept to where
 The grave was waiting, and funeral rites.
 It was no hero that they honored thus—
 No statesman, scholar, bard, nor one whose voice
 Had thrilled the public ear by trick of words;
 Nor one who'd thrust himself before the gaze
 Of crowds to win fame's meed by other means.
 A simple farmer—this and nothing more—
 An unpretending, plain, and honest man,
 With no ill brooding in his truthful heart,
 And none to utter by his manly lips;
 Loving the good and true, and doing good and true
 In all his dealings with his fellow man.
 I gazed upon the pageant, and of one
 Who was of those that formed the waiting group,
 I asked the meaning of the tribute shown—
 Tempting the answer that I knew before:
 "Why this display of grief," I said, "for him
 Whose lot was cast in such a homely mould—
 Why do the farmers leave their fields for this?"
 He was a man uncouth—to sentiment unused—
 But brushing off a tear that dimmed his eye,
 He said, half sternly, "Why the fact is here;
 We honor pay because we loved him so."
 Ye grand and mighty, where is honor found
 So glorious in its offerings as this,
 That rests its giving on the simple claim
 For honor's tribute that it loveth so?

CURCULIO TRAPS.

A correspondent of the *Prairie Farmer*, after having tried the plan of destroying curculios by trapping them with bits of bark, cobs, &c., comes to the conclusion that not more than one in twenty can be caught in this way. With the thermometer in the sun at 70°, he dropped a number of curculios on the ground within three feet of the trunk of a tree under which there were cobs and pieces of bark lying close around the trunks. These curculios, instead of travelling towards the tree as he expected they would, seemed to go in search of a crevice in the ground or cover under which they could secrete themselves. All, within ten minutes, took shelter under bits of earth, some of which were not larger than hazle nuts, where they appeared to be quite as contented as though they had been under pieces of bark. He next put some on the ground near the trunk of a tree; some of these crawled directly under the pieces of bark and cobs, others crawled down into an open space between the earth and tree.

At another time on repeating these experiments when the thermometer in the sun indicated 115°, a dozen curculios were put on the ground a little

way out from the trees, and all soon flew away, except two; these two went under a cob where they were found several hours later. Nine others dropped at the foot of the tree near the cobs and bark; all took to wing except one; this one crawled under the bark to the tree and into the crevice between the earth and tree made by the swaying of the tree.

He mentions one fact which suggests the possibility that they may be trapped by some kind of food or bait, and thus be destroyed. A few years since, in the month of June, he stripped the bark off the body of a small honey locust tree which was standing near plum trees. A day or two afterwards, on passing this tree he found quite a number of curculios feeding on the alburnum or newly forming layer of wood. For some days after this or until the end of the curculio season, he daily picked about as many curculios off this tree as were caught by jarring some eight or ten plum trees which were near.

He concludes that at present there is but a single mode known by which curculios can be kept under control, and that by capturing and killing them. This may be done on sheets, or in small gardens the ground may be made hard and perfectly smooth under the trees by treading and levelling it, after which trees may be jarred every morning, and the fallen fruit and insects swept up and destroyed. The proprietors of quite a large number of plum trees with whom he is acquainted, have for a number of years, saved a large crop by this simple process. After the ground is once compacted and smoothed off, the sweeping will keep down weed growth, and ten minutes per tree, each morning, will be ample time in which to do the work.

MOSES IN PASTURES.—The New York Farmers' Club was asked a few weeks since, can land on which mosses are taking the place of grass be economically reclaimed, and grass be made to grow by any top dressing other than barnyard manure? or by any other process than that of ploughing and reseeding? The use of lime was suggested. Mr. Colton knew of a lawn that was improved by lime; Mr. Smith had a low mossy meadow; he underdrained it, lined a part of it, with good results; to another part he applied manure; but the thing which proved most effectual was the turning on of the wash from the roadside. Now the surface that starved one cow, keeps three horses and two cows, and they are sleek all summer. Mr. Gregory had known good effects from the application of soot to mossy pastures. Mr. Bragdon knew a piece of mossy land which was thoroughly scratched over with a sharp-pointed harrow and top-dressed with plaster and strong bone manure, and with good effect. He said anything which supplies ammonia will kill out the moss. Mr. Read had succeeded in killing it only by ploughing at least three times, sowing, after the third ploughing, grass seed to form a sward. In six years the process needed

repeating. What we want is some top-dressing that will effect what ploughing does, with the further good of killing it forever. Mr. Ely put two tons of bone-dust on three acres of grass land, which had much growth of moss, and the grass took such a start that it choked the moss.

EXTRACTS AND REPLIES.

WILD GARDENING.

I read a piece on Wild Gardening, published either in a February or March paper. I think it was written by S. O. J. I have lost the paper, and having a spot that I would like to turn into a wild garden, I wish to know what seeds to plant. The piece to which I refer told what would grow with but little care, and said many ladies loved flowers who had not time for their cultivation; it therefore informed them how to grow a wild garden.

Will you be so kind as to republish the article, or will S. O. J. inform me through the FARMER what to plant? AN INTERESTED READER.

Groveland, Mass., 1871.

REMARKS.—A portion of my garden is devoted to the culture of wild flowers, and I enjoy them highly. I cannot make the first darling of the spring—the fragrant May flower—bloom out of my fernery. There it opens its sweet eyes in February, and rejoices my heart when all is wintry and dreary.

But the Blood-root (*Sanguinaria Canadensis*) blossoms in far greater beauty in a cultivated border than in the meadow by the brook-side, where I found its fair blossoms several years ago, tightly enfolded in their warm green cloaks. By digging deeply down for their bloody roots, I managed to transport them to my border so tenderly that they bloomed directly and as fresh and lovely as if they had not undergone a “change of base.”

The next year the blossoms took unto themselves another row of petals, and have bloomed so yearly. They are the belles of my parterre in the early spring. Their light green, shield-shaped leaves are easily recognized after their starry petals have fallen, and it is a good time to transplant them now. They seed plentifully, and I have a large bed of them.

The wild Anemone which rings its pearly pink-tinted bells at every breath of wind, will transplant easily. Its leaves are shaped like the parsley fern, and though its flowers are departed, its roots can be easily distinguished.

The Dog-tooth violet, with its curiously variegated leaves, is also a very pretty flower. It has a bulbous root, and it grows plentifully in the meadows near the pine woods.

The Trillium with its triune leaves, is very desirable. One variety of it has dark chocolate flowers of a large size; the other has lovely white flowers tinged with pink. The roots can be easily transplanted at any season.

In my walks, in the early spring, a basket and trowel always accompany me, and every pretty flower I see is immediately impressed into my service. I wait until night fall to set them out,

but give them plenty of water as soon as I return home. Thus treated, I rarely lose any.

The “Spring Beauty,” a dear little pink and white darling, has decorated my garden this many a year. It is a dwarf plant of rare beauty, which springs up amid the greenest of mosses among the rocks by brook or rivulet. It can be grown from seeds or roots.

The Meadow Rue is a stately plant, with a fine stalk of feathery white flowers. It does not bloom until late in June, and continues to flower through July. Its foliage is deeply serrated like the locust, but more finely cut, and the under sides of the leaves are of a silvery whiteness, so that it is frequently called silver leaf. It has been cultivated in my garden for several years, and there is no Spirea that excels it in beauty and grace. Did it come from Japan, and were it a high priced novelty, it would be sought for by all flower lovers; but as it is plentifully scattered all over the country, and blooms by the roadsides, in the meadows and dells, it is *too common* to be cultivated by many; yet it attracts more attention in my garden than many a greenhouse darling. It is very lovely in bouquets and vases, and mingles perfectly with roses and verbenas. Its feathery, waxen white plumes contrast finely with brilliant colors. Every lover of flowers should seek for the Meadow Rue.

Jack in the Pulpit is a pet of mine. I like the furry flower; so prettily striped with chocolate and green, and folded so carefully over the “Jack in Green.”

The charming pink Azaleas or Mountain Pinks are very beautiful shrubs, worthy of all praise. The rich, rosy pink flowers perfectly cover the stems before hardly a green leaf is to be seen upon them.

The woods, meadows, and hill sides of New England abound with many lovely flowers which would richly repay the cultivator. I do not recall the article to which “An Interested Reader” refers, and doubt if I wrote it,* but I am pleased to tell her of my success in “Wild Gardening,” and must beg her pardon for the delay of the answers. Her letter forwarded to us from the office of the FARMER was mislaid during the unavoidable upheavings of the annual house-cleaning.

The wild Aster grows to perfection in my garden. As it does not bloom until late in August, I had nearly passed it by; but it deserves most honorable notice. There are two varieties, the lilac, and the white. Both of them are very desirable, and will grow without any care, and bloom profusely until the frost cuts them down. They grow over two feet high, and the flowers are in large clusters. They are found all over New England. Bryant mentions them in his ode to “*The Close of Autumn*,” thus:—

*The article alluded to was written, we think, by Mrs. H—, of Georgetown, Mass., author of a series of articles printed in the FARMER last year, entitled “*Wild Wood Studies*.”

"And on the hill the golden rod, and the aster in the wood."

The Golden Rod is also a beautiful flower, which should be more highly appreciated. There are many garden flowers that are not half as charming.

In every country garden there is a spot where a "wild garden" could be planted, and great pleasure reaped from it. I have mentioned but a few of the flowers that could be obtained. In May, one can find at least thirty different kinds of flowers, all of which are lovely. The orchis, which blooms in July and August, is far more beautiful than half the flowers that are cultivated. It can be found in rosy lilac, lemon color, orange color, white and pink. It grows in marshy ground, by the side of running brooks, and on the edges of the forests, and will bloom under your care, if its tastes are consulted. The wild violets, though they lack the fragrance of the English violet, are very pretty, and they are to be found in blue, yellow, white, and, once in a while, pink. All are desirable for home culture.

S. O. J.

PREPARATION AND USE OF MUCK.

If it will be of any advantage to "Young Farmer," or anybody else, I will cheerfully give my experience in using muck. When I was a boy and young man, my father used to dress his grass land in the spring with pure stable manure; using the best he could get out of his yard. When there was rain enough, it would do very well; but sometimes the atmosphere would get more than half of it.

I abandoned the practice years ago. For ten years or so, I have used muck. I draw it out in the fall, leaving it about one and a half feet deep, so that it can freeze and thaw entirely through. The action of the atmosphere has a very beneficial effect upon it. The next fall, I buy wood ashes when I can get them, and mix six bushels with a cord of muck. The ashes and muck are mixed by ploughing,—repeating the operation at intervals, three or four times before using, and then spreading it on the land in three or four weeks.

I prepare it in the same way, and spread and harrow in. For corn I formerly used salt with muck, but do not know whether or not it did good. When I could not get ashes I have used lime, but I do not consider it near so good, and very often I have used fish guano. You can add to the mass any good fertilizer you may have.

I do not know but that my grass land produces as well under my treatment as it did under my father's. This grass land is so situated that it cannot be ploughed. I spread on eight or ten loads to the acre. Of course more would be better; and also more ashes with the muck would be better. My grass and tillage lands are dryish with a porous soil.

FAILURE OF CROP OF GRASS FIRST YEAR.

I want now to refer to another subject. Writers in the FARMER, long ago, said they could get good crops of hay the first year without seeding with grain. That was just what I wanted, and so I tried it. Seeding nearly an acre of good land to clover, herd-grass and red top, I expected to cut a good crop of hay; but the grass would not grow. It amounted to pretty good feed in the fall. If I had sowed oats the crop would probably have been worth \$50. But this I will say, the hay crops that followed for two years were much the best that I ever got on the same land. Two years ago, I made trial again on a small piece of land, the best on the farm, with the same results. This convinced me

that sauce for the goose is not always sauce for the gander; that is to say, no general rule will apply in all circumstances and conditions, or, in other words, what is good practice on one farm will not prove so on another.

ELIJAH GUNX.

Montague, Mass., May 26, 1871.

ZONALE OR HORSE-SHOE GERANIUMS.

I have been much interested in S. O. J.'s articles on "Window Gardening," and I wish to thank her for the information given on the cultivation of plants.

I always search every newspaper for articles on gardening, and have taken great pleasure in such articles when found. I wish to inquire of S. O. J. if what she calls Zonale Geraniums are what is commonly known as the "Horse-shoe Geraniums." I have asked a number of my friends if they were acquainted with Zonale Geraniums, and they have said they knew not what they were. I am sure I should like them, as S. O. J. says they are never infested by insects, and will bloom ten months out of twelve. My verbenas have nearly died out from the effects of green lice. I have tried showering in warm water, but the lice stick so closely to the leaves that it nearly ruined my tall plants trying to wash them off, and I find it impossible to get rid of them.

S. A. R.

REMARKS.—The Zonale Geraniums are of the class formerly called "Horse-shoe"—the dark chocolate zone of the leaf giving the name. They are a decided improvement upon the old fashioned varieties, and are found in every shade from the richest scarlet to the purest white. No garden is complete without them, and they require but little care. During six months of the year they can remain in sandy soil, in pots or boxes, in the cellar. In the middle of May I planted out eight roots of all shades from scarlet, salmon, pink, and white, which were put into the cellar in October, and had not been watered once. The cellar was perfectly dark and damp, but was frost proof. They are all covered with leaves now, and will soon be in full bloom.

Should S. H. R. desire it, when the Zonale Geraniums in my possession, are more fully grown, I could send her cuttings by mail with pleasure.

Green lice can be killed by smoking the plants with tobacco. A good way is to hold a lighted cigar under the plants, and the smoke will stupefy them so that they will fall off, and can then be brushed up and destroyed.

S. O. J.

USE OF SALT.

In an article in the last FARMER, a correspondent says that the use of no injurious stimulant and the practice of no wrong habit can be abandoned without experiencing the inconveniences of a reaction of the system, and would account for the ill effects of withholding salt from men and animals on the same principle. To this I would reply that the taste for salt is natural to both man and beast, while the taste for stimulants is artificial or acquired. In their native state, animals lick salt with the greatest relish, but, wiser than men, they refuse to meddle with tobacco, alcohol or opium. The desire for salt is not therefore a reaction of the system, but evidence that salt is a requisite of the animal economy; a necessity to health, though perhaps not as food.

Mr. Hardy's argument may be ingenious, but it is unsatisfactory. The lessening of milk, the increase of parasites and of disease consequent on

depriving cattle of salt are not the result of reaction, but the effect of not supplying what the system naturally demands. The reaction from withholding tobacco, alcohol and opium is the result of an unnatural state of the body. Hence while these stimulants destroy life and health and are the greatest curse to mankind, salt is not only harmless but essential to the animal economy.

Warwick, Mass., May, 1871. A SUBSCRIBER.

CORN AND WHEAT GROWING.

I beg to say a word to Mr. Poor in regard to his famous crop of wheat, or rather wheat straw, that he talks about in the *FARMER* of May 27. The crop of wheat is a good one, but what about the straw? I see that he is inclined to think "K. O." a man of straw; but would not the saddle set well on his own shoulders, when he comes to tell of 10 (ten) tons of straw to the acre? Ten tons of straw to the acre and only 36 bushels of wheat, that is straw with a vengeance! As the article stands now, I can see no place for a misprint, for it is carried out at \$6,—\$60! That one item to my mind must make a difference of some \$12 which shall be placed to the credit of the corn, or rather thrown out of the account altogether. I am allowing a ton of straw to twelve bushels of wheat and I think that that estimate will be called liberal by the majority of wheat growing farmers.

I also notice that some of the items charged to the corn are loud, to say the least, such as:—"To furrowing by horse and man \$2; board of man and boy planting, \$4; weeding and hoeing three times, \$14; shelling, \$5; total, \$25."

Let me estimate a little on his \$25. Furrowing, horse and man, \$1.50; board of man and boy planting \$1; weeding and hoeing three times, \$5; shelling 78½ bushels at 4c. \$3.14,—total \$13.14; a saving of \$11.86, which will cause the account to stand,

Profit of corn an acre	\$67 48
" " wheat "	50 00

Balance in favor of corn	\$17 48
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I do not know what Mr. Poor himself pays for shelling corn, but I see that he estimates at a fraction over six cents, while I should be glad of a job for the entire winter at four; which will be quite an important item in shelling the corn crop of the season of 1870.

All the advantages that I can perceive that will arise by raising wheat, consist, first, in the fact that the farmer will have the consolation of knowing just what he is eating,—whether it is bread made from damaged, sprouted, mouldy wheat with a large addition of white corn, or the genuine simon pure article; and, secondly, wheat fills an important place in a rotation of crops, and the real cost is not so much as the seeming cost, for the manure is gathered on the farm of which part is not used, and a share of the labor comes when there is no heavy calls on the farmer's time. Consequently I advocate the raising of wheat in New England, but will not and cannot advocate the idea of giving wheat the benefit of a credit of ten tons of straw to the acre, when three is liberal. JONES.

Addison Co., Vt., May 29, 1871.

COAL ASHES AS A FERTILIZER.

I read in a Massachusetts paper an article headed "The Value of Coal Ashes." Having made one trial of them I wish to give my experience. Some few years since I was at market, when a friend said to me there are two barrels of coal ashes that you may have for carrying away. I accepted the offer and took them home, some eight miles, for trial. I ploughed a piece of old ground to plant with beans, and furrowed out. I then spread in a part of the rows a quantity of the coal ashes; and

in other rows I spread some old manure. The beans were planted and tended precisely alike all through the season. At harvest time I gathered my crops, and to my disappointment I found the rows manured with ashes had produced less than half as much as those treated with the old manure. So this settled the question with me, as to the value of coal ashes. T. G. HOLBROOK.

Bedford, N. H., May, 1871.

FOULS IN COWS AND OXEN.

The following receipt was obtained from a cattle doctor, and I have succeeded in curing the worst case I ever saw,—so bad that the disease had broken out above the hoofs. Take one ounce of quicksilver, and one ounce of aquafortis, put the quicksilver first into a bowl and then the aquafortis. When it becomes milk warm turn it in half a pound of unsalted lard, with four ounces of alum, pulverized fine, and stir it until it is cool. For application, melt a piece about the size of a walnut, and put it on with a feather.

South Lee, Mass., 1871. JOHN McALLISTER.

REMARKS.—Quicksilver and aquafortis are rather dangerous articles to handle by those who have but little experience in compounding medicines.

YELLOW SNUFF FOR CATERPILLARS.

A few days since I discovered that the caterpillars had begun their work on the apple trees in my garden. There were hundreds on a single branch. For experiment I got some yellow snuff and sprinkled it into the nest and a little onto the branches around, and to-day I have been out to see what the effect was. I found not one single living caterpillar on the trees. I have tried kerosene oil quite a number of times in years past, with not half so good success, and the oil destroyed some of my trees.

M. V. B. DREW.

North Danville, Vt., May 29, 1871.

WOOD ASHES.

I have a lot of unleached wood ashes that are worth here 12½ cents per bushel. Are they worth more than that for manure? If so, on what crops are they of the most benefit and in what condition are they to be applied? Are they good to use in mulching a young orchard? H. L. S.

Albany, Vt., May 8, 1871.

REMARKS.—Dry, clean wood ashes are richly worth twenty-five cents a bushel, we think, to any farmer who wants more manure. You can scarcely use them on any crop without very sensible results. A handful thrown around the corn plants at the first hoeing, will greatly increase their growth, and give them a highly dark green color. Scattered in the hill before the potato is covered, or about the hill just before hoeing, will have similar results. Sown broadcast on the mowing fields at the rate of as small an amount as five bushels to the acre, will greatly increase the growth and color of the crop. Besides this, their beneficial results will continue for several years in succession. Strewed over young cabbage plants, squashes, melons, or any of the garden vegetables, such as tomatoes, beets, onions, turnips, or carrots, wood ashes not only tends to disturb the insects that infest the plants, but has a decided influence on their growth and quality. All the ashes made on the farm should be collected with

care, kept dry and applied to the crops. Nothing could be better for the young orchard. Spreading ashes broadcast over the surface would be more useful than as a mulch for the trees. The roots will soon find it if spread. It is better to use a moderate quantity annually, than to apply a large amount at one time.

Ashes may be safely used in composts of loam, muck, straw, or dry fibrous materials; they would tend to reduce them. If in composts where the dropping of cattle are a portion of the material, the ashes should be applied immediately before the compost is to be used,—and the compost be slightly covered by the soil. The easiest and best way, however, is to apply ashes in a dry state and unmixed.

A QUEER WORM.—THE SUGAR SEASON.—RATS.

I have for a long time been looking for some notice of a worm, which appeared in great numbers all about here last spring. They were found in woods and orchards, mostly near the ground, often in large clusters in ice. Never saw them before. Their general color whitish, from three-fourths inch to an inch in length. "What is that a sign of?" "Sign of suthin'," remarked my sapient wood chopper.

The sugar season opened here at the same time with Massachusetts, and was an extraordinary one.

It will perhaps interest many of your readers to know that there is quite a large section of country where the rat is wholly unknown. There are plenty south, north and west of us, but none here. We are not anxious for their company, but suppose that they will come on the railroads if they learn that there is one corner of the earth which they have so far failed to discover and colonize. Hope they don't read the FARMER. J. G. F.

Stanstead, Can., June 1, 1871.

REMARKS.—We do not recognize the worm from the above description. If his habitat is in the ice, he will not, probably, destroy our field and garden plants and fruits.

The rats will undoubtedly make you a call one of these days. They may have been waiting for the renewal of the reciprocity treaty! In the neighborhood in which one of the editors of the FARMER was raised, rats were unknown until he was some twelve years of age. The discovery of a colony in the granary was more interesting to those of us who had never seen a rat than to the older people who had been familiar with them in the sections from which they emigrated.

WHEN SHOULD A HEIFER HAVE HER FIRST CALF?

Will you give us your opinion on this subject, or the opinion of some of your experienced correspondents? Is it best for a heifer to come in with calf at two years old? Some say so, and argue that they save a year's keeping, and that heifers thus managed generally make quite as good cows. But does it not take a year's growth out of them, and just at the time they ought to have it to get properly matured to bear offspring, and will they not last a year longer and make larger and better animals not to be allowed to bring a calf till they are about three years old? W. H. W.

Shirley Village, Mass., 1871.

REMARKS.—In his work on cattle, Mr. Allen, a

person of much experience, says the time at which heifers should come in depends greatly upon the manner in which they have been fed, and the condition of flesh they may be in. If they have been fed on good muscle-making food, with growth unstinted, they may safely be coupled with the bull at fifteen to eighteen months of age; and better to a small bull than a large one. The following particulars, he says, are decided advantages.

1st. The milking faculties of the growing heifer are more easily stimulated into action than if neglected to twenty-seven months or later, (bringing her calf at three years of age,) and thus apt to prove a better milker.

2d. She is inclined to be more docile and easier handled and managed.

3d. She arrives at her maturity of production for dairy purposes *at a year earlier*; and

4th. A year is gained in her profit.

We are inclined to think that where heifers are well kept, one coming in at two and the other at three years old, that not much difference will be found in them at the age of *four* years. Young animals, of good growth and in health, bear the burden of gestation and parturition without much apparent inconvenience or cessation of growth. At three years of age the parts may not be so compacted as to offer any obstruction, but upon the whole it is, perhaps, best that a strong and healthy heifer should come in at two years of age.

CORN AND WHEAT GROWING.

I would say to Mr. Jones that it was *not* "my famous crop of wheat, or rather wheat straw," mentioned in the FARMER of May 27. I quoted from "K. O." and his "friend," and said so expressly. It was his friend who estimated his "straw at ten tons per acre, at \$6 per ton." I think Mr. Jones cannot find fault for my so doing, although I thought it a stupendous exaggeration.

I based my items of labor in producing both wheat and corn (he gives me no credit on the wheat) at about Long Island prices, which may be in excess of prices in Addison County, Vt. I charged manure to wheat the same as to corn, though probably the wheat did not get half the quantity, as is usual with the small grain crops.

We know, and every farmer should know, that his profit lies in the *bushels* he can get *per acre*. The Byfield farmhouse in 1847 or 8, took the premium at Salem, Mass., on 116 bushel. There was a *profitable* crop; but if four acres (about the average for New England,) had been cultivated to obtain the same result, the farmer would have lost money. The principle of great crops is the only true policy "to make farming pay." It is the way to save wages, board, washing and grog of the hired men. When farmers secure their crops from less than one-half of the acres now cultivated, they will find their lands as well as themselves growing rich, and their anxiety about paying hired help much diminished.

But I have a problem which I wish my friend Jones would solve. We will plough in an acre of green sward, second crop, on good corn or grass soil, and sow on the sod two bushels winter wheat. If a good season, we propose to harvest thirty bushels wheat, more or less, depending on the soil and amount of grass ploughed in. We propose to sell three tons straw at \$10, say \$30. The whole

cost from the plough to the granary is not over \$22, leaving us thirty bushels of wheat, say \$60, and a surplus of \$8 on the straw over cost of raising. Now if "Jones" can work out an acre of corn at \$1 per bushel—the present price—at a profit of \$68 we should like to see something of his mathematics. A crop of spring wheat, *manured*, would of course cost more. Yet corn cannot be made so cheap. It is a crop of incessant labor; yet every farmer should manage to grow all his corn for his domestic wants.

If the Vermont farmers wish to feast their eyes, let them come and see the winter wheat fields on this island. H. Poor.

Long Island, N. Y., June 13, 1871.

A CHAPTER ON WEEDS.

Weeds, weeds, weeds! How they grow and how they prosper! How like an armed multitude they spring up around us, crowding in where "their room would be much preferable to their company," and laughing at our attempts to destroy them. Some have thought it advisable to treat them as tender plants—to start them in a hot-bed, and transplant them with the utmost care; as in that case heat and cold, beasts and birds, worms and bugs would labor unitedly for their destruction. How this plan would work I cannot say. But if we must have weeds, we might as well have pretty ones. It might require some time and care to convert asters, pansies, zinnias and portulacas into vegetable gypsies. But when once so converted, they would be much more satisfactory than wild parsnips, nettles, Roman wormwood or Canada thistles. I would not reckon in this class the despised plant known as "pigweed," which would be sufficiently beautiful if it came from over the seas, with a long name attached to it, and costing "fifty cents per packet of five seeds." It is an easy matter for poppies to become weeds; they seem to take to the business quite naturally. But with a little encouragement, and by not allowing the above mentioned and similar weeds an inch of standing room, it is quite likely that many delicate and beautiful flowers might fill the places now so unworthily occupied. Think of a rich mat of portulacas covering rocks and rubbish heaps; of stately hollyhocks springing from the crevices of stone walls; of larkspur and coreopsis disputing the ground with beets and cabbages; of morning glories, with luxuriant foliage and lovely blossoms, ready to conceal every deformity or adorn every beauty of the landscape. Is not this "consummation devoutly to be wished?"

MATTIE.

Marlboro', Mass., June, 1871.

THAT EXTRA PAGE.—SEASON IN CANADA.

Put me down for one who wants the additional page of agricultural matter in the FARMER. It seems as though farming would be pretty dismal work without the light of the press; and the FARMER certainly appears to me to be the *best* luminary of this kind which beams upon the path of the husbandman in New England and Canada. In fact, it seems as though I could not farm without it. The weather about here was quite cold and backward at first, this season, with much rain; but of late it has been fine, and farmers for the most part are well along with their spring's work. Quite a breadth of wheat has been sown hereabouts and it promises well unless the weevils injure it. Potatoes, also, are pretty extensively planted, on account, probably, of the high price this season (fifty cents per bushel) which is pretty strong considering that a duty of twenty-five cents per bushel has to be paid before reaching any considerable market. Potatoes, hay and live stock, especially horses, have been exported to the United States'

markets the past winter and this spring, more extensively perhaps than ever before from this immediate vicinity. Hay has been low, and I have known of a fair article being sold for \$5 per ton. The new crop, notwithstanding the light fall of snow last winter, is quite promising, the early and copious rains having given it a good start.

Barnston, P. Q., June, 1871.

W. H. W.

THE SEASON AND CROPS IN CANADA.

The spring opened early,—some grain was sown in the third month (March.) The greater part of sowing was done in the fourth month. Land was in excellent order early. It is said grain was never put in in better condition. The fifth month was rather dry. From the 6th to the 25th no rain fell. The nights were generally cool, and frost was seen several times; the last, I think, was in the morning of the 24th. The roads became very dusty, and the top of the ground was dry. The vision of many people become disturbed by the prospect of another dry season. Ruined crops and empty purses haunted the waking hours of those—and their number is legion—whose faith in an over-ruling Providence is too weak to enable them to trust in His promises. A fine shower on the evening of the 25th upset all such apprehensions. The 26th was warm and somewhat cloudy. Vegetation was rapid. Since that we have had frequent showers—generally light, but enough to keep things growing. The greater part of grain in this vicinity looks fine. On stiff clay soil some seed did not come up well, and such fields will be light. Some fields of barley are beginning to head. Corn is up and looks well. The hay crop will be light. Clover was nearly all killed. Apples promise well. Pears not so plenty as in some years. Plums and cherries will be scarce. The season continues early. Flower gardens are now in their glory. Roses and pinks are abundant. Strawberries are ripening, which is very early for this place. We had fine ones, of the Hovey Seedling variety, for tea the 9th inst. The current worms are troublesome, but they did not begin their depredations until later than usual. A dose of *hellbore* dusted from a pepper-box, destroys them at once. I had some fine gooseberry bushes that were loaded with fruit, but the mildew has taken them all. Is there any preventive? Cut worms, called the *grub* here, are very destructive. I had a fine bed of onions from black seed, but the worms have eaten nearly all off. I have dug out and killed a great many, but there are some left. In some gardens they confine themselves principally to beets; in others to cabbage plants or carrots. The last three or four days have been cool. In the morning of the 10th, the mercury fell to 46°.

GRANITE.

Bloomfield, Ont., 6 Mo. 12th, 1871.

AGRICULTURAL ITEMS FROM MAINE.

It is getting to be much too dry for grass, wheat, oats, and the planted crops. It has been a very singular spring season. Early it was very warm, fine weather; next, when farmers wanted to begin spring's work, it was wet and cold, and lastly, it has been the hottest that we have known in May, one or two days at a time, and then it would be about as cold as any one ever knew it for the time of year. But amid these changes our farmers have put in a good amount of all the crops usually cultivated with us.

The most interest, perhaps, and more than usual, too, is in the direction of potatoes and corn. Much experimenting with commercial fertilizers has taken place on cultivated crops; and a much larger amount of them has been used this spring than in any one year before.

The increased market facilities by the railroads

opens up a quicker cash return for hay than can be obtained by feeding it out. Straw and other coarse feed, with a little corn or some kind of roots do quite well for the stock which is intended to be kept. Of these materials many of the farmers have a large supply, which a few years ago were of little use, but can now be run through the stock and their value much increased every way.

Under this view, perhaps, it is admissible for our farmers to make up the deficiency by the introduction of foreign manures, providing they have husbanded the resources of the farm, or, if not, if it will stimulate them to set about so doing at once.

The farmers of this part of Maine let much manure go to waste in the days of her early settlement, from many causes; but a favorable sign of the times is, that year by year, uninviting portions of our hillsides are left to clothe themselves again in their natural habiliments, while the better portions are more carefully ornamented as well as cultivated. Hence, the beauties of nature and the embellishments of art are continually springing up side by side, in new places, and with new charms for the beholder. O. W. TRUE.

Farmington, Me., June 9, 1871.

SEASON AND CROPS IN WASHINGTON COUNTY, VT.

We had a slight frost last night in low places. Vegetation looks well, although it is quite dry. Our hay must be light, any way. The currant worm attacked my bushes the last week in May, and I applied the poke, as I did last year, and cleaned them perfectly clear. My bushes now promise well for a good crop. Some of my neighbors have lost theirs by last year's neglect, but those who tried the poke or hellebore saved their bushes. I would say to all lovers of the fruit it will pay to save your bushes. E. W. O.

Montpelier, Vt., June 10, 1871.

THE HAY CROP.

On page 365 of this number, we had an article upon the importance of this crop to New England farmers, and gave some reasons why grass makes more and better hay when cut just as the seed is formed than when it is allowed to stand until the seed is nearly or quite matured. A reference to two or three other points in regard to the grass crop will be seasonable and is of importance. After speaking of the value of the crop, and the best time to cut it, the next item for consideration seems to be,—

How Shall it be Cured?

In order to retain all the valuable properties of the grass, the operation of curing it is just as important as it is to observe minute details in curing beef or ham for our tables, or in preparing the delicate preserves of plums, peaches, strawberries and other fruits. Curing the hay is a process of cooking it, so that it will retain its good qualities, and can be preserved with them for an indefinite time. It is one thing to *cure* grass, and another thing to *dry* it.

Within our recollection, the hope of the farmer was that he might have unclouded, hot days, successively, during the haying season. We need both now,—but more attention to the effect of exposure of grass to two or three such days has convinced us that grass can be cured with very little exposure to a bright, hot sun.

Cut herdsgrass, then, when the blossom is just passing out. It has reached its full growth at this time, is still tender, and now develops its sugar. We present a single fact, stated by not only a scientific man, but a most observing farmer, in order to settle this matter of the time of cutting, as far as possible.

In the *Boston Journal of Chemistry*, Dr. NICHOLS, the editor, says that he had one acre of grass, redtop and clover, that was cut June 19, and the hay stored by itself. On the first of last March he put his herd of ten cows upon it, and the immediate increase in the flow of milk amounted to ten quarts per day. The hay fed to them before was of the same variety but cut after the middle of July. The early cut hay "spent" fully as well as the later cut, no more of it was consumed, and the Dr. estimates that the money value of the product from this hay, fed to ten cows, was greater by near a dollar a day than that from the other.

Cut as much grass as the force employed can comfortably handle. If it lies in swaths, as left by the hand scythe, or left in bunches by the machine, spread it evenly and leave it exposed to sun and air until it is thoroughly wilted. This will require from three to five or six hours. By this time the water in the grass will have pretty much escaped, leaving its juices holding in solution the valuable qualities of the grass, and in themselves not spoiling but keeping the hay soft and pliant. When in this condition, make and cock the hay while it is warm, which should be done as early as four or five o'clock. If covered with caps—which will sometimes pay for themselves in a single season—the cocks may remain two nights. After the dew is off, on the third day shake out the cocks, leave the hay to sun and air for three or four hours, and then get it in.

We say above *shake* out the cocks. This is an important operation, especially if the hay has been gathered by a horse rake. Turning the cocks over, or removing them, a forkful at a time, and laying it upon the ground, does

not open the hay so as to admit sun and air. A gentle *shaking* is the only process that will answer the purpose desired. Many a load of hay is essentially injured by neglecting this particular, which might have been housed in perfection had it been properly attended to. By this neglect, damp bunches are left, when a large proportion is sufficiently cured, which makes it necessary to keep the whole out a day longer.

When the hay is got into cock while it is warm, it being also still somewhat moist, it passes into what is called "the sweating process." This cures, fixes the color, preserves the fragrance, and dissipates so much of the moisture that the hay may be preserved in perfect condition.

"As the hay goes into cock, so it will come out—as green almost as the grass itself. The hay will feel heavy; and it is heavier than when dried to death; but it will not spoil; it is cured. You have the same grass here which so recently was in full bloom, and so tender with juices. And when you come to feed it out in the winter, you will see the benefit of curing grass in this manner, instead of bleaching it and drying it into straw. In market, its superior weight is an advantage—its color also, and its fragrance,—for the fragrance of the early harvest field is still there."

If the hay is not covered with caps, perhaps it would be better to *shake it out* the second day, turn it about noon, and get it in soon after one o'clock. This course would be better than to run the risk of rain.

Rain on the hay, or even a heavy dew, injures it materially, by washing away the gum and oil which it contains, and which are important qualities. Hay that was wet in curing has little or no fragrance left. Other portions of the grass, besides the gum and oil, such as the sugar and starch, may be so easily made soluble as to be washed away by rain. Every precaution, therefore, should be used to prevent its being wet.

The curing of clover hay should be somewhat different. It should be cut in the early part of the blossom and allowed to remain in the swath through the first day. If the crop is a light one, it had better be collected into windrows and left in that condition over night. If a heavy crop, turn it upside down and leave it so until the next day. In either case col-

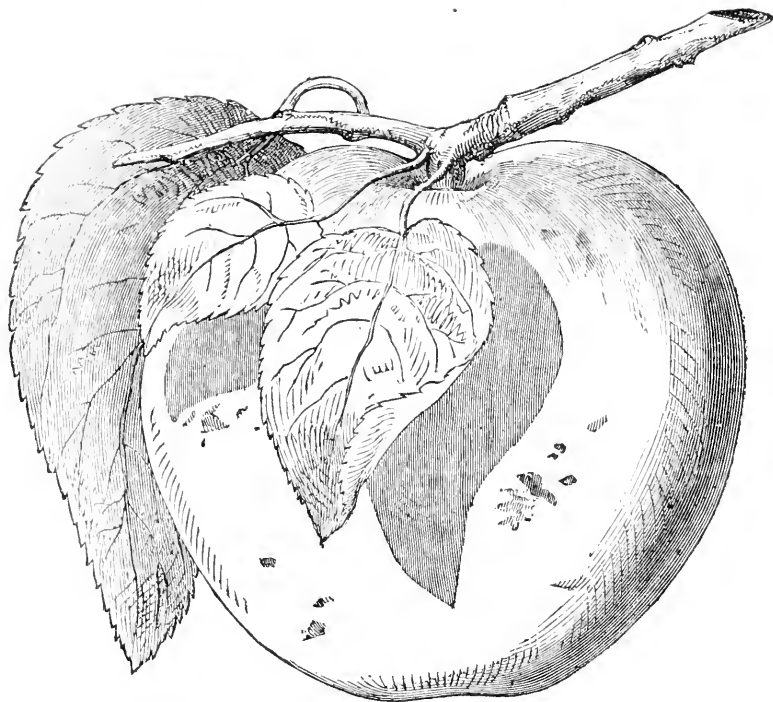
lect it carefully and cock it on the second day. If covered with caps it may remain so for two nights more, then open to sun and air for three or four hours and get it in. If the weather is cool, it may be better to remain even longer than two nights in cock. If not covered with caps, there will be more risk, and the time of leaving it out must be governed by the prospects of the weather and the force at hand to take care of it.

ENGLISH SPARROWS.

The New York Farmer's Club recently had a talk about these birds, which were brought over from England to New York a few years since, and which appear to be spreading rapidly in all directions; having already been seen twenty miles from the city. Mr. Andrew Fuller said that two pair put on his place had driven all other birds away. He did not think the sparrows were entitled to the credit they generally received of causing the disappearance of the span worms from the trees in the city, but said, "in truth, they had nothing at all to do with the disappearance of the worm, that being effected by the ichneumon fly." Several gentlemen having stated that the sparrows did devour worms, to their certain knowledge, Mr. P. T. Quinn said:—

There is no doubt in my mind but that they will feed upon insects when they can get nothing else to eat, but they will also become very destructive and injurious to the fruit grower in the country. There is a great deal of sentiment about birds. I know that some of them are the allies of the fruit grower, but I was born where the sparrows were pests in the worse sense of the term; where they not only eat the fruit, which we would be willing to forgive, but they feed also on the blossoms, and so the subject comes up whether that variety of bird will greatly benefit the fruit-grower. I have a neighbor, and he called me into his fruit garden and showed me the blossoms of his trees all picked off; he said that he had not seen any sparrows around, but his place is only a stone's throw from mine, and we had had quantities of them, and there was no doubt but that the sparrow was the depredator. If he would only eat the ripe fruit, I would say let him have it, as much as he can eat, but when he eats the buds, then he is an injury, and I fear that we shall regret that they have ever passed out of the city.

DIFFERENCE IN EGGS.—The *Germantown Telegraph* well says, there is a vast difference in the flavor of eggs. Hens fed on clean, sound grain and kept on a clean grass run, give much finer flavored eggs than hens that have access to stables and manure heaps and eat all kinds of filthy food. Hens feeding on fish or onions flavor their eggs accordingly—the same as cows eating onions or cabbages, or drinking offensive water, impart a bad taste to the milk and butter. The richer the food the higher the color of the egg. Wheat and corn give the best color, while feeding on buckwheat makes the eggs colorless, rendering them unfit for some confectionery purposes.



EARLY SWEET BOUGH APPLE.

The apple from which the above engraving was sketched by our artist, grew in the garden of W. W. Wheildon, Esq., Charlestown, Mass. This fruit, which is adapted to various climates and soils, is known in different localities as the Bough, Yellow Bough, August Sweeting, Sweet Bough, &c. It is not tart enough for pies or sauce, but is fine for baking, and sliced into a bowl of bread and milk, it furnishes a dish fit to set before a king, or even before the men and boys who have been hard at work in the field all day, and do not care for a meat supper.

Mr. Thomas, in his *American Fruit Culturist* describes it as "large, roundish, remotely conical-ovate, sometimes as distinctly conical; pale greenish yellow; stalk one-half to an inch long; basin narrow, deep; flesh white, very tender, with an excellent sweet flavor; ripens from the middle to end of summer. Tree a moderate bearer; shoots yellowish, somewhat irregular, ascending; top round-headed; leaves obtusely crenate." Mr. Cole adds, "calyx narrow and deep, extending tube-like

into the heart of the fruit; the tree is hardy, bears well in light soils, and the Early Sweet Bough is the best early sweet apple known."

For the New England Farmer.

THE NEW METHOD OF CURING HAY.

The approaching hay harvest has again brought up for discussion in the columns of the *FARMER* the subject of curing hay. Without any expression of opinion in relation to the subject of my own, some quotations of the opinion and experience of others will be made in relation to the method, now practiced by a few bold hay-makers, of storing hay before it is fully dried.

At the Farmers' Convention held at Lewiston, Jan., 1870, the subject of cutting and curing hay being under discussion, Capt. Taylor, agent of the North Wayne Scythe Factory, described his method of curing and housing his hay crop. Some five years ago, he became satisfied that farmers generally dried their hay too much, and he began experimenting. His first experiment was to dry the hay about half as much as usual, and it came out well. Other experiments were tried, and now his practice is to begin cutting grass

at nine o'clock in the morning, if the day is favorable. In the afternoon it is turned over for the purpose of getting out what dew and dampness may still remain. By that time the hay will be, not dried, but heated. It is then put up as fast as possible, and if the prospect is that there will be a storm, the hay is carted directly to the barn; if the weather is good it is allowed to stand in cock over night. The next day the cocks are inverted, and as soon as the moisture collected in the bottom has evaporated, it is carted to the barn, and trod in the mow as solid as possible. This will come out in the winter as bright as when first cut with the scythe. It is just right. If there is no water in the hay, it may be put into as large a mow as you please, and trod as hard as you please, and it is perfectly safe. He was then feeding hay put in the last season when his neighbors thought him crazy, and it was as perfect as it could be, and worth twenty-five per cent. more than that dried as formerly. The top of the mow is never covered with refuse straw, and he has never lost a pound. After the mass begins to sweat, the top of the mow will be very wet, and perhaps two or three inches will be a little colored. He would have the grass nearly mature before being cut—that is, it should be cut as soon as the first blossom has disappeared. No care is taken to have a mow completely filled at one time. He puts in as much as possible each day, and if from any cause several days intervene before more is placed upon it, there is no harm comes from it. Much importance is placed on packing it well and treading it solid.

At the same discussion, Mr. Rideout of New Gloucester, said that five years ago he built a new barn, and partitioned off bins on the bay side and on the scaffold. As soon as the dew was off in the morning the mower was set to work. If any moisture remained on the grass when cut, it was turned over about eleven o'clock; if not, it lay undisturbed. At two o'clock, the horse-rake was set in, and the teams set to hauling. All was in the barn by four or five o'clock. One day, eight acres were cut and housed. Each bin was filled full before another was begun, and trod as hard as possible. No covering was used. Two years ago, twenty-two loads were carted in one afternoon. Two loads were put upon the scaffold, and the remainder was put in the bays and trod solid. That put in, the bays came out as bright as when put in but that upon the scaffold was not fit to be eaten.

At the Farmers' Convention held at Farmington, Me., last January, Mr. F. V. Stewart of that town was called upon and gave his method of curing and housing hay. The mowing machine is set to work as soon as the dew is all dried off—say at nine o'clock in the morning. By eleven o'clock as much is cut as can be cured for that day. The grass is allowed to remain just as the machine left

it till one o'clock in the afternoon, when two men are set to raking with hand rakes—the grass being very stout and heavy. The loaders follow immediately after, taking it directly to the barn. By five o'clock at latest all is cleared up and snugly stored in the barn. All the hay carted in one day is placed upon the same mow, and if the mow is not filled in one day, the product of the next day's work is stored upon it. In no case is hay stored on a partially filled mow after the process of heating and steaming has commenced. A mow should be filled in two days. No particular pains is taken to pack it or tread it solid. After a mow is filled, and before any heat is generated, old straw or hay is spread over the top to the depth of six or eight inches for as many tons of hay, for a sweat blanket to absorb the moisture. If a larger amount of hay is stored in one mow than a greater depth of straw must be used. Every pound of the hay comes out in the winter bright and fragrant as when put in, and is believed to be worth more than hay dried in the common way. He has stored his hay in this manner three years and has not had a single pound injured. In order to have it save when housed in so green a state, it is not necessary that it be stored in a tight barn or in tight bins, or that it be trod down air tight, as many contend. There is no secret about it only to have the water dried off in the field and the mow filled before any heat is generated. Mr. Stewart showed specimens of hay taken from the mow each year. The hay was perfectly cured, bright, and emitted that pleasant aroma so inviting to cattle, and which is found only in well cured hay. To the taste it gave that sweet pungent flavor never found in poor hay. Evidently the specimens were not what would be called early cut hay, but probably were cut just as the grass went out of blossom.

The gentleman who made the above statements are men of good standing, well known in the community, and any statements made by them are perfectly reliable. They take great pleasure in showing their hay to any one who wishes to examine it.

Z. A. G.

Androsceoggin Co., Me., June 14, 1871.

For the New England Farmer.

WHAT IS THE BEST METHOD OF HARVESTING CORN?

There are at least three different modes of harvesting corn: first, by cutting close to the ground, placing in shocks until the husks and stalks are sufficiently dry; secondly, by topping,—cutting the stalk off just above the ear, leaving the corn to stand thus until the corn is thoroughly dried; and thirdly, which is more seldom followed at the north, to leave the whole growth of stalk with the corn to stand until the corn is fit to harvest.

Each method has its advocates, and each considers his method superior for some reason,

if for no other, because his father always did so. But of these three methods some one must be preferable,—which is best can be determined in no other way than by experiment.

It is the purpose of this article to give the results of two series of experiments which appear to be conclusive in the matter. Having once settled upon the best mode of procedure, it is the part of wisdom for each farmer to adhere to that mode that produces the most satisfactory results.

In the first case, the corn was all cultivated in the same manner, and without regard to the trial of this experiment. When the corn had passed from its milk state and become partially seared, ten hills were cut close to the ground; the stalks from another ten hills were cut off above the ear, and ten hills were left untouched. This corn was all harvested and husked at the same time, Nov. 7, with the following result by weight:—

10 hills, cut close to the ground, produced	13 lbs. 13 ozs.
10 hills, stalks cut off above the ear, "	15 lbs. 6 ozs.
10 hills, left untouched, "	12 lbs. 13 ozs.

showing a marked superiority in favor of cutting up close to the ground.

Again, another experiment, in another locality, was tried, with twenty hills of corn, and conducted in the same manner, with a more marked result, the test being by weight:

20 hills cut close to the ground	29 lbs. 14 ozs.
20 hills, stalks topped	26 lbs.
20 hills left untouched	25 lbs.

or a difference between the two first of about 13 per cent. and between cutting up and leaving untouched about 17 per cent.

Still another experiment, between cutting up and topping, showed results yet more favorable to cutting up. A field was taken in which the character of the soil was the same, and the corn very even. Four rows were cut up, and four rows topped. Both were harvested at the same time, and on the 2d of November were husked in a bushel basket, each basket full being weighed with the following result:—

That cut up at the ground.	
Row No. 1 weighed	79 lbs.
" " 2 " " " " " " " " " " " " " " " "	72 lbs.
" " 3 " " " " " " " " " " " " " " " "	74 lbs.
" " 4, not full, weighed	67 lbs.

Being in all 292

That with tops cut.	
Row No. 1 weighed	75 lbs.
" " 2 " " " " " " " " " " " " " " " "	73 lbs.
" " 3 " " " " " " " " " " " " " " " "	74 lbs.
" " 4, not full, weighed	19 lbs. 13 ozs.

Being in all 241 lbs. 13 ozs.

giving 50 pounds 3 ounces, or about 17 per cent. in favor of cutting up. But as there had been some claim made that the greenness of the corn affected the result, in this last experiment, the corn on the 17th of January was shelled, yielding by measure:—that cut up 3 bushels, 2 pecks, and that topped 2 bushels, 3 pecks, leaving a balance of 3 pecks of shelled corn, or about 21 per cent. in favor of cutting up; and upon weighing the same it still showed

a balance of 17 pounds 7 ounces, in favor of cutting up. The difference by measure while in the ear was also in favor of cutting up by three pecks.

This last experiment was also carried still further to answer in some measure the claim that the fodder is much better where topping is practiced, than by cutting up. In this case such evidence as could be adduced went to prove that the stalks were equally as good throughout, as those taken from the top.

Another fact is to be considered. In many cases where topping is practiced, the corn is husked in the field directly from the hill, leaving the field to cattle to select such of the husks as are palatable, leaving a large share, which is saved by cutting up, to be trodden under foot, and so far as feeding purposes are concerned, entirely lost. And it is a question of no little importance whether the value of corn fodder is not greater where the whole is cut up at the proper time when the juices furnish the greatest amount of nutriment and before the lower portion is changed to woody fibre.

Baron Liebig has said that "All plants left in a natural state to mature their seeds, give back to the earth, in the form of excrementitious matter, a portion of their seed-forming substance, thereby diminishing the weight of the grain or seed." And certainly each of the above experiments furnish conclusive evidence upon this point. Nor is this all. Do not all farmers (perhaps without understanding the principle which lies at the foundation) cut their grains, oats, wheat, rye, &c., when it is just past the milk state? This is probably for the same reason, because they have discovered that when so cut they not only get a greater weight of grain but also a better quality of straw.

When matters become so plain that a way-faring man need not err therein, certainly it is time that each one understands his best interests. If by cutting up our corn we can increase the yield seventeen bushels in a hundred, it stands us in hand to govern ourselves accordingly.

W. H. Y.

Connecticut, 1871.

For the New England Farmer.

DRAINAGE ON LIGHT SOILS.

MR. EDITOR:—Since you did me the honor to publish my communication referring to matters suggested by your able correspondent, Royal Smith of Millington, I have had opportunity to hear my broad theory as to drainage being applicable profitably to every sort of arable soil, confirmed voluntarily, and, to me rather unexpectedly. A few days ago while on my way to northern New Hampshire by railway, Ex-Gov. Smyth, of Manchester, in that State, came on board, and after friendly greeting, addressed me substantially as follows:—

"I thought of you within the last half hour. Do you remember, when at the State Fair at Keene, some eighteen or twenty years ago, you got up near the beginning of what threatened to be a very dull farmers' discussion on thorough draining, and made a statement that draining was an essential to every soil,—that the driest land could be profitably improved through its use, and that you would tolerate no theorizings which either controverted indirectly or denied this proposition?"

Of course I recollected the circumstance, and the Governor went on to say:—

"Well, like many others present, I considered your statement in the highest degree extravagant, and thought, as they did, that you had advanced the idea for the purpose solely of provoking debate—which it was very successful in doing; and I have continued to think so until recently, when I have discovered, *practically*, that you were perfectly right, and your theory entirely reliable. And the way proof came to me was in this wise: I had a piece of wet land which I could only drain by running the trenches through a dry portion which, in my estimation, required no drainage at all. When the work was performed I thought of you and what I still esteemed to be your extravagant theory, not doubting in the least that my experience would ultimately knock the bottom out of it. I mentioned just now that I had been thinking of you within the past half hour, and that was while I passed over the light land I had drained compulsorily, and waded through the deep grass in the vicinity of the drains, while I noted that that on the undrained portion was stunted, burned up and valueless. I believe in draining light land, and that the process will pay."

Now I think this testimony, which was backed by that of Gen. Natt Head, President of the N. H. Agricultural Society, and one of the most enlightened farmers in the State, (the General had joined us at Hooksett, where he resides,) will show my intelligent friend Royal Smith, that there has been some method in my universal drainage madness, and I think he will rejoice in the information.

A FIRESIDE FARMER.

REMARKS.—Thanks to friend MOORE for his testimony in relation to draining land. Our farmers, half of them at least, are not yet thoroughly convinced that draining any land is a profitable operation. Land is too plenty and too cheap, they say, to make it economical to expend \$25 to \$50 an acre in relieving it from surplus water.

We have often felt inclined to say as much as our correspondent has above; but upon reflection have concluded that there is so much land that needs draining more than other portions do, that we would urge draining that

most needing it, and then strike boldly into his theory. But we are glad of his help.

The operations of the atmosphere upon soils are as yet imperfectly understood. When we know more about them, we are inclined to think that we shall learn that there are no varieties of land but may be brought into a state of comparative fertility at moderate cost, and one important agent in the work will be *atmospheric influences*.

USING FRESH MUCK.

We are often told even by those whom we regard as high authority that muck should never be used until it has been exposed to the weather a year, or after being composted with manure. I have had some experience with muck, and I do not agree with those writers. My first trial was made on a gravelly knoll, where I put a one-horse load fresh from the muck-bed. Sowed the piece to buckwheat. Where the muck was it grew very rank; lodged and rotted before the rest of the piece was ripe.

Since then I have tried it as a top dressing on grass land, and was satisfied that it doubled the crop the first year, but not so much benefit the second year as manure generally has. I have doubled the hay crop on my farm, and claim that I have done it by using muck, and have never used but a very little that has been out of the bed a year. I dug a ditch through the muck-bed, and since then when I have wanted to draw out a few loads, I have taken it from the side of the ditch and spread on the grass land. I do not say it is better used in this way, but I think it pays and saves some labor.

The best top dressing that I ever used was made by slacking lime with brine and mixing it with muck shovelled up in June, and spread late in the fall. It showed the effects for six years. I think that if farmers knew the value of lime, salt and muck, phosphate would be a drug in the market.—*Cor. Vermont Farmer.*

REMARKS.—One great cause of the different opinions of farmers in relation to the effects of muck, is the different qualities of the muck used. The above writer has probably muck of superior quality, or that which is comparatively free from those properties which render most muck direct from the bed less beneficial than in his case.

THE NUTRITIVE VALUE OF MILK.

Dr. Oliver C. Wiggan, of Providence, Rhode Island, bears the following testimony to the value of milk:

The nutritive value of milk, as compared

with other kinds of animal food, is not generally appreciated. There is less difference between the economical value of milk and beef-steak, or eggs, or fish, than is commonly supposed. The quantity of water in a good quality of milk is 86 per cent., in round steak 75 per cent., in fatter beef 60 per cent., in eggs about 68 per cent. From several analyses, made last winter, I estimated sirloin steak, (reckoning loss from bone) at 35 cents a pound, as dear as milk at twenty-four cents a quart; round steak at 20 cents a pound, as dear as milk at 20 cents a quart. Many laborers who pay 17 cents for corned beef would consider themselves hardly able to pay ten cents for milk, when, in fact, they could as well afford to pay 15 cents. Milk is a most wholesome and economical food for either rich or poor. If the money expended for veal and pork were expended for milk, I doubt not it would be an advantage to both the stomach and pocket, especially during the warm season. Relatively speaking, then, milk at 10 cents, or even 12 cents a quart, is the cheapest animal food that can be used. Whether farmers can afford to produce it cheaper is a matter for them to decide. It is very probable that were they to ask 12 cents, a very large number of poor people would refrain from its use from mistaken notions of economy, notwithstanding they are excessive meat-eaters.—*Monthly Agricultural Report.*

WINTER MANURING FOR CORN.

The soil is a sandy loam, and grew potatoes the previous year. On a portion of the lot I hauled, early in February, at the rate of forty-seven loads of well-rotted manure to the acre, and spread it evenly over the surface on the snow. To the balance of the lot I applied the same amount and quality of manure to the acre, just before planting. I ploughed the ground about four inches deep, and planted the medium sized Yellow Dent corn.

The difference in growth and yield between the early manured and late was very remarkable indeed. The early manured was decidedly ahead of the late, from the time it came up till harvest. It ripened earlier, and yielded 160 bushels of sound ears to the acre, and the other 120 bushels per acre.

During nearly thirty years' experience, I have never, but once before this, obtained so heavy a yield; and I think it is about as much as can be obtained. The variety I plant yields three pecks of shelled corn to the bushel of ears. I select the earliest ripened, soundest and best formed ears for seed, and from stalks bearing two or more ears, if sound and large; but I never plant "nubbins."—*Cor. Rural New-Yorker.*

•SURFACE APPLICATION OF MANURE.—An inquiry relative to "non-buried manure," whether deteriorated by the action of frost,

&c., in *The Field*, London, is answered by another correspondent of the same paper as follows:

The same causes that produce ammonia from the faecal matter generate an acid, called humic acid, from the straw. This relates to manure and its distribution. These having a mutual affinity unite, and the resulting compound is lumate of ammonia, which is non-volatile, highly soluble; consequently every dew or shower carries with it this compound, which is distributed to the plant. The soil has the power to take it up from the water and store it away, giving it up again to the roots of plants as required. This plainly shows that manure laid on lands is better than if ploughed in six inches deep; moreover the lumate of ammonia, being non-volatile, in my opinion, is not deteriorated either by the sun's rays or action of frost.—*Charles Joseph Whitworth, M. R. C. V. S. L.*

TEND THE CORN LATE.—A correspondent of the *Iowa Homestead* says sensible words as follows:—"Tend your corn well; tend it late—don't be deterred because a timid neighbor, who may like an excuse for neglect, says you will ruin it if tended when the blades curl up. This is all bosh; the blades will open as the sun recedes behind the tree tops, and your corn will grow apace. If you abandon your corn early, that inevitable late crop of weeds and grass will come upon your land like a cloud, and in place of corn you will reap nubbins. Therefore, we say, tend your corn late, and crowd it with a few tons of turnips, by having the late weeds and grass exterminated, your ground in a mellow condition, and sowing thereon a few pounds of turnip seed about the 20th of August."

PREVENTING MILDEW ON GOOSEBERRIES. A writer in *The Globe*, says: For the past six years, as soon as the grass will cut, say nine inches or a foot long, I have spread a quantity of new cut grass under my bushes, and let it remain all summer. That, combined with very high cultivation and close pruning, has been a complete preventive of mildew for the last six years. Whether this simple and inexpensive remedy will hold good on all kinds of soil, I am not prepared to say. One thing I can say, as all my neighbors can testify: I have had splendid crops of large sized, sound berries, some of them nearly as large as small plums. My soil is a sandy loam, with gravel sub-soil.

ADULTERATION OF MILK.—Dr. Bates, health officer of San Francisco, in a recent communication, says: The common mode of adulterating milk for this market, is with water, burnt sugar and table salt, by which process the bulk is increased from one-eighth to one-half, and can scarcely be detected by sight or taste.

ANALYSIS OF SOILS.



OME years ago the idea became quite general that the farmer could hand the chemist a quart or two of soil taken from any of his fields, and that by an analysis of that soil the chemist would tell him,—if anything were lacking,—just what to add to it, so that he could raise what crop suited his circumstances the best.

This was encouraging, to say the least, and some thought the fabled “philoso-

pher’s stone” had been found, which was to “turn everything into gold!” And it encouraged another class,—those who had little faith in farming,—but who, under this grand discovery would never miss securing a crop, and therefore would engage in the cultivation of the soil.

Analysis, therefore, soon became popular, and great expectations were entertained, even of the poorest soils. Much money was paid in order to learn the secret of success, and more careful attention and investigation given to the soil than was ever given it before, by those who handle it themselves. And thus the analysis fever was not without a beneficial effect.

Few common farmers now plod over the soil on which they are at work, in an unthinking and careless frame of mind; but look upon it as the store-house where their treasures are hidden; the generous soil that liberally responds to all fair and seasonable treatment. All this has been a decided gain in the art of cultivating the soil and securing paying crops.

The practical analysis of soils, however, has not met the expectations which were based upon it as a theory. The lime, for instance, is added, where the analysis declared it lacking in a soil devoted to wheat, but still the wheat crop does not prosper as it does on a

new soil. And so in other cases; the laboratory does not furnish the information as to what we can apply to the soil to bring the crop we desire.

From what we learn of soils by reading the reports of those who have manipulated them in the laboratory, it appears that *four earths* are almost always the chief constituents of all cultivated soils, viz: silica (flint,) alumina (clay,) carbonate of lime (chalk,) and carbonate of magnesia. These are mixed together in an endless variety of proportions, and are interspersed with animal and vegetable remains, salts, &c., to an equally varying extent. It is to ascertain the presence and extent of these substances that the analysis of soils is resorted to.

But entirely beyond the knowledge which an analysis would afford, there is probably a combination of elements, and a principle of action going on in the soil, of which we know nothing and perhaps never shall know here.

Certain articles of food, as the potato, for instance, are analyzed and declared not to be nutritious, because they are made up of a very large proportion of water. The potato, it is said, cannot be very nutritious because eighty-three of its parts in one hundred are water; and yet that vegetable will probably sustain life longer than wheaten bread. If the water were extracted, life would be short if dependent upon what was left. And so we take it, it may be with soils. Some that are decidedly of a sandy character, produce crops that surprise every beholder. Something lurks in them which gives them fertility, and which, if taken away, however small in amount, would check or destroy its capacity for vegetable growth.

If soils then are made up as stated above, we ought to learn this lesson from that fact, viz: to mingle all soils by turning them together and pulverizing them much more thoroughly than we do. Then the particles which are the most essential can be acted upon by heat, air and moisture, and all have fair opportunity to act in conjunction and bring a crop.

COARSE-WOOL SHEEP IN MICHIGAN.

The *Port Huron Times* says that Mr. S. B. Carl of that township sheared eighty-three and one-half pounds of wool from thirteen sheep, a cross between the Cotswold and Leicester breeds, the pres-

cut spring. Eight ewes of the same flock had eleven lambs. The wool was thoroughly washed and dried before weighing.

Mr. W. H. Sotham, an Englishman now living in Michigan, after giving a description of some Cotswold sheep owned by L. P. Taft of Pontiac, of which one two-year old wether sheared seven and a half pounds of well washed wool, adds:—

I am inclined to believe that there is no better breed of sheep for profit than Cotswolds in America, and I am sure that no breeder of animals of any kind have made more money, or kept their farms in higher condition than the Cotswold ram breeders on the Cotswold Hills in Gloucestershire, England. Many of them have made an independent fortune. Those who do not breed rams, breed for the butcher, selling off their cull ewes, and wether tegs every year. By this course of breeding, they keep a very uniform flock of ewes, and go to the regular ram-breeders for their males. By this system they winter their wether tegs and cull ewes on turnips and good early cut hay, and in April or early in May, send them shorn to Smithfield. By this means the mutton and wool brings in a good yearly income, keeping their land in a high state of cultivation. I know a great many ram breeders and sheep breeders who breed for the butcher, as above, and I never knew one to fail. Good farming and sheep husbandry go hand in hand, and I cannot see why it will not answer in this country.

For the New England Farmer.

VERMONT BOARD OF AGRICULTURE.

This organization did not get into working order until toward the last part of winter; consequently as winter gives leisure to some farmers and long evenings to all, the Board lost what is considered the best time to hold meetings for the discussion of agricultural topics. Nevertheless Prof. P. Collier of the Vermont Agricultural College, and Secretary of the Board, with commendable energy, set about a new enterprise in this State.

The Board, on invitation, held a meeting at St. Johnsbury in April. The meeting was rather thinly attended, but some of the papers and discussions were published by the local press, and awakened some interest.

The Board were then invited to meet with the Brandon Farmers' Club, and also with the club at Randolph. A meeting was held at Brandon, June 8 and 9, and at Randolph June 15 and 16.

The Brandon Club have a good room, with fifty chairs, a library of 200 volumes, and meetings have been held quite regularly for twelve years. The Otter Creek Valley, in which the township of Brandon is located, is a good farming country, and it is evident that the farmers desire to do justice by their productive soil.

At Randolph, some of the subjects were the same as those considered at the meeting in Brandon with the addition of papers on "The Management of Woodland;" "Farm Buildings;" "Ploughs and Ploughing;" "The great want of Vermont Farmers;" "Our

Manufacturing Industries;" "Relation of Chemistry to Agriculture."

The importance of manufactures to our prosperity was very ably and eloquently set forth by Hon. C. H. Heath of Plainfield. Those present were profoundly impressed with the truth of his arguments, which made it evident that by a little effort, the water power of the State might be more fully utilized, the raw material in woodlands, quarries, and mines should be wrought by many more persons who would become consumers of produce, and producers of valuable commodities that would add to our wealth as a State.

The Board were entertained by the citizens with such open-hearted hospitality that they seemed to be the recipients of pleasure while they bestowed it on others.

Between the hours of meeting, teams, double and single, were hitched up and members of the Board taken to places where the scenery or farms were most attractive. The roads were splendid, especially the one that runs north through the village along the summit of a high hill, on each side of which were beautiful farms, old orchards, grand maple shade trees, &c. Here I saw the homes of some of the occasional correspondents of the NEW ENGLAND FARMER,—Rufus Nutting, George Nutting, J. J. Washburn and Col. J. B. Mead. The farming that comes in their experiences and observation must give them material for many more good articles for your paper. Although these are hill farms, they are nearly free from stone, and the fields are smooth and easily tilled.

The meetings here were attended by ladies as well as men. Gov. J. W. Stewart presided. The interest manifested by neighboring farmers was very encouraging to the Board.

Probably there will be another meeting at St. Johnsbury at the time of the State Fair in September.

ZUAR E. JAMESON.

Irasburg, Vt., June 19, 1871.

For the New England Farmer.

THE MICROSCOPE AND POST-MORTEM EXAMINATIONS.

The value of the Microscope, and the importance of Post-mortem Examinations, as aids in our Investigations of the Diseases of Animals.

I have often seen in the columns of the FARMER, and in those of other agricultural journals, descriptions of diseased horses, cows, swine and other domestic animals, with a request in each case that the editor or some other person, name the disease and prescribe the best method of treatment. In some of these descriptions, mention is made of tumors, swellings, &c., situated upon, within or near some important organ, with difficult respiration, obstinate diarrhoea, extreme emaciation, &c., &c.

Now, each of these ailments or symptoms

of disease, with others which might be mentioned, may be and often are the effects of different and dissimilar causes; and hence, it is important that persons when describing either diseased or deceased animals, state minutely all the facts which may have a bearing upon the case. If this is not done, it will be difficult if not impossible to decide the question as to the nature of the disease, or prescribe the remedies most likely to remove it. But farmers cannot generally do this with the means now at their command. To do it they must avail themselves of some instrumentalities better than any which are in common use among them at the present time.

Permit me, then, to introduce to their notice that wonderful little instrument the *microscope*; also *post-mortem* or after death examinations, as the best means for acquainting themselves with the causes, character and proper treatment of the diseases to which their domestic animals are liable.

The microscope is an optical instrument designed to assist the eye in the inspection of minute objects. In its simplest form it is merely a double convex lens; but in the form adapted to the use of persons engaged in scientific pursuits, it is much more complicated. The microscopes employed by anatomists, physiologists, pathologists and naturalists, possess a magnifying power equal to many hundred diameters, and cost several hundreds of dollars; but instruments magnifying from one hundred to five hundred diameters, may be

obtained at a cost of five to twenty-five dollars; and these will answer the purpose of a farmer very well. Caution, however, should be used in the purchase of a microscope, for some of the articles sold under that name are entirely worthless. I would advise persons wishing to procure a good instrument to do so through the agency of a reliable physician or optician.

But, I may be asked, can a person of only a common education, by the assistance of a microscope, discriminate the various diseases which affect our domestic animals? No, not in every case; and yet, almost any farmer can by its aid determine whether or not the disease which may be threatening the life of his horse, cow, hog, sheep or fowl, or which may have destroyed one of his most valuable animals, was caused by worms or other parasites. And with such knowledge as he may easily acquire he can, by the use of a microscope, decide with a good degree of certainty respecting a tumor or a swelling which may have appeared on a favorite animal—whether it be cancerous or otherwise—whether it be malignant or benign.

As to the importance of post-mortem examinations, little need be said. They have done more for the advancement of medical science, than all other things together; and they will accomplish equally as much for the advancement of veterinary medicine and sur-

gery, whenever they shall be frequently and skillfully made. Until that is done, *edevinationism* will never become what its importance demands,—a science based on well established facts. Until that is done, farmers will continue to be, as they have heretofore been, the easy prey of ignorant and designing men, and their poor dumb animals will continue to become the victims of all the foolish and cruel quackery that foolish and cruel men can invent.

But we suppose most of the older farmers will continue to do as they have hitherto done, and as their fathers did before them; for farmers, like doctors and ministers, are apt to become stereotyped in their notions, and averse to the adoption of new ideas and practices. Therefore I address especially the young farmers who may chance to read what I have written, hoping that they may be induced to occupy an advanced position, not only as it regards the tillage of the soil and the cultivation of crops, but also, as it regards the care and management of the animals which contribute so much to their convenience and comfort, and constitute so large a portion of the wealth of every civilized country.

As the object of post-mortem examinations is to contrast the appearance of the several tissues and organs of the dead body with those of the living one, noting the various changes which disease has produced, it is quite important that a person have some previous knowledge of the tissues and organs when in a state of health. I would, therefore, advise young farmers to become well acquainted with the general, and also the minute appearance and structure of every part of the healthy animal. This can be done by a careful examination of slaughtered animals. A few books, also, which your family physician will gladly name to you, and, perhaps, aid you in procuring, will be worth more to you, and give you more real and permanent satisfaction than a whole library of the fashionable literature of the day. J. H. STEDMAN.

West Brattleboro', Vt., 1871.

SHOVEL MAKING AND GENERALSHIP.—In some remarks suggested by Mr. Greeley's late visit to the South, the *New Orleans Price Current* says, "the industrial doctrines professed by Mr. Greeley have subjugated the South. * * * We have always thought that Ames & Co., the greatest manufacturers of spades, shovels and axes in the world, did more to conquer a people who had not a manufactory of spades, axes or shovels, than any general of the Federal army. * * * No people can ever hope to be free that exchange staple productions, worth gold and silver, for commodities which perish in the use; nor who have to send abroad for the guns that they fight with, the food that they eat, and the very clothing that they wear."



MATTIE NEWELL, Bred by J. A. Harwood, Esq., Littleton, Mass.

There may be more extensive breeders of Short-horn cattle in the country than Mr. Harwood, but probably there are few who are more careful in selection or more judicious in the management of stock. We have heretofore figured several animals of his raising, and this week we present a beautiful sketch, taken from life by Mr. Page, of his four year old cow Mattie Newell. She is red and white, and was calved April 25th, 1867; got by Sheridan, 6179, out of Eva, by Backwoodsman, 226.—Ann Gwynne, by Prince Albert, 853.—Daisy Second, by Dandy, 50.—Daisy, by King Charles Second, 84.—Daffodil, by Sampson, (5081.)—Young Daisy, by Dandy, (1900.)—, by Wilkinson's bull, (2838,) —, by Greathead's bull, (3936.) &c. Sheridan, 6179, was bred by Samuel Thorne; got cow Mattie Newell. She is red and white, by Sixth Duke of Thorndale, 4752, out of Bertha, by Duke of Thorndale, 2787.

TO MAKE CURRANT WINE.

For several years we made a ten-gallon keg of currant wine, of as good quality as any we have tasted, and is generally so pronounced by those who have had an opportunity to judge. The mode of manufacture is simple, and can easily be followed by any family having the currants and the disposition to make the wine.

The currants should be fully ripe when picked; put them into a large tub, in which they should remain a day or two, then crush with the hands, unless you have a small patent wine press in which they should not be pressed too much, or the stems will be bruised and impart a disagreeable taste to the juice. If the hands are used, put the crushed fruit, after the juice has been poured off, in a cloth or sack and press out the remaining juice. Put the juice back into the tub after cleansing it, where it should remain about three days, until the first stage of fermentation is over, and removing once or twice a day the scum copiously arising to the top. Then put the juice in a vessel—a demijohn, keg or barrel—any size to suit the quantity made, and to each quart of juice add three pounds of the best *yellow* sugar, and soft water sufficient to make a gallon. Thus, ten quarts of juice and thirty pounds of sugar will give you ten gallons of wine, and so on in that proportion. Those who do not like sweet wine can reduce the quantity of sugar to $2\frac{1}{2}$; or who wish it very sweet, raise it to $3\frac{1}{2}$ pounds per gallon.

The vessel must be full and the bung or stopper left off until fermentation ceases, which will be in twelve or fifteen days. Meanwhile the cask must be filled up daily with currant juice left over, as fermentation throws out the impure matter. When fermentation ceases, rack the wine off carefully, either from the spigot or by a syphon, and keep running all the time. Cleanse the cask thoroughly with boiling water, then return the wine, bung up tightly, and let stand four or five months when it will be fit to drink, and can be bottled if desired.

All the vessels, casks, &c., should be perfectly sweet, and the whole operation should be done with an eye to cleanliness. In such event, every drop of brandy or other spirituous liquors added will detract from the flavor of the wine, and will not in the least degree increase its keeping qualities. Currant wine made in this way will keep for an age. We have some made in 1856 which is really an excellent article.—*German town Telegraph*.

GROWING AND SAVING CLOVER SEED.

Upon this subject Birdsall, in his *Clover Leaf*, says:—It requires some skill in growing clover for seed, to understand how long to pasture and when to mow the first crop. Of course the season has much to do with its filling, yet the crop can be materially helped if

managed as it should be. The large kind, if saved for seed, can be pastured till the 15th of June, and very close; then give it a coat of plaster, so as to give it a good start. The medium or common clover should be pastured till the 25th of June, or if mown, cut the same time, and be sure and get off July 1st. You can then look for a good yield of seed, and if later, your crop will not pay for handling. Give it a coat of plaster, and you will find it very beneficial, and particularly on light soil and if the season is dry. Be sure and keep your stock out of the clover saved for seed, as it will spoil the young plants. In cutting the seed, do not let it stand till dead ripe, as one-third will rattle off and be wasted. Cut when the head is handsomely brown and the stalk not quite dead; there will then be scarcely any waste, and the seed just as plump. Many people, in gathering clover seed, waste at least one-fourth in allowing it to stand too long before cutting. Cut with a mower or reaper—a mower is preferable—attaching a drag apron, and throw off in bunches of medium size and in windrows. Turn it over when the dew is on, so as not to rattle off the bolls. When thoroughly dry, you can thresh immediately, or put it away where it will keep dry, as damp clover is very difficult to hull, and at the same time it is impossible to get all the bolls from the straw.

CARE OF SUCKING COLTS.

Those who raise colts, usually exercise care in the selection of good stock to breed from; but a great many neglect to give the colts proper attention during hot weather, while they are running with dams. It is not uncommon to see those that were healthy and well developed in early summer looking puny and poor, and their hair falling off before autumn. The trouble arises from allowing the colt to draw milk while the blood of the mare is in a high state of heat from violent exertion.

When the dam is used in hot weather upon the farm or road, so as to heat her blood, the colt should never be allowed to suck until she has fully cooled off. Let him fill himself before the mother is put in the harness, and if it is important that he should accompany the dam, tie him at her side so that he will be unable to draw milk until he is liberated; for it is much better that he should go hungry a few hours than to take his food while it is in a fevered state.

If the mare is to make a long distance in a hot day, and return at night, it is best to leave the colt at home, and draw the milk from the udder by hand once or twice during the day and upon returning, then allow the colt to fill himself gradually as the milk is secreted.

Colts injured by heated milk seldom recover from it for a year or two, and many times never. They become reduced in flesh, get lousy in the fall and during the first winter of

their existence, when they need health and strength,—as, under any circumstances, this is the most critical period of their growth,—they have just life enough to move, and the second summer, the proper time for development, is spent in the recuperation of lost vitality.—*Horseman's Manual.*

GRADE JERSEYS FOR BEEF.

Rev. W. A. P. Dillingham writes to the *Maine Farmer* in praise of grade Jersey stock for beef. He says: "This winter I have fattened and killed two Jerseys, both grade animals. One was a three year old heifer that proved unfruitful, the other was a cow five years old, that proved unsatisfactory. They took on fat with remarkable facility. They each dressed off about five hundred pounds. I never fed animals that gained faster than they did. They uniformly ate their allowance, and none of it went to waste. A ton of hay and fifteen bushels of meal will make as many pounds of beef when fed to a grade Jersey as when fed to a grade Durham. After they were killed, the beef proved to be of unusual excellence. In fact, and to make a very modest statement, I never before had such beef on my dinner table. Its tenderness, its juiciness, its richness are in degrees of remarkable fulness. This beef seems to be as much richer than ordinary grades of beef in the market, as the Jersey butter is superior to common butter."

REMARKS.—As this statement is not in accordance with the general impression as to the fattening qualities of Jersey stock, we solicit the experience of others on this point.

AGRICULTURAL ITEMS.

—Striped snakes are now protected by Michigan farmers as "the only creature that will eat potato bugs with a relish."

—The Orleans County, N. Y., Agricultural Society have decided that horse-racing is not an agricultural exhibition, and prohibited it on the fair grounds.

—The *Rural World* says that the curculio is becoming almost as destructive to peaches as to plums. It is almost impossible to find a single peach uninjured by this insect some years.

—Utah is so oppressed with grasshoppers that a machine has been invented for their destruction, which is drawn by two horses, takes about a rod of land in its sweep, and makes hash of every grasshopper it comes in contact with.

—Horace Greeley was a great drawing card at the Texas State Fair. *Flake's Bulletin* says that one family "traveled three hundred miles, most of the way by private conveyance, simply that they might be at the Fair and see and hear Horace

Greeley." The crowd was great, and it is pleasant to learn that among the thousands of people there was no case of drunkenness reported, and no disturbance of any kind. The farmers of Texas seem to be a law abiding people.

—For a salve for burns take equal parts of beeswax and newly churned fresh butter with a crumb of rosin. Simmer slowly till the moisture is out, and strain through a fine cloth. This will keep for any number of years.

—The *Rural New Yorker* reports that in New York, and apparently in the country, there is a strong disposition to make early sales of cheese, thus preventing a large accumulation of stock. The opposite plan was tried last year with very unsatisfactory results to holders.

—The difference in color between grapes grown on clayey soil and those grown on sandy soils is easily distinguished. Those on the former are darker and more glossy than the latter. On tests being applied the richer grapes are found to be those grown on gravelly soils.

—A sick cow, belonging to Mr. J. C. Converse of Southboro', was put in a fair way to recover, the other day, after having a wooden pin fifteen inches in length taken out from under her hide back of her shoulder blade. The cow doctor said that the animal swallowed the stick.

—There never was a better prospect for an abundant wheat crop throughout the West than this Spring forecasts. The growing wheat stands thick upon the ground; the recent rain and warm sunshine have given it a luxuriant appearance, and made the fields look green and beautiful. Wheat growers predict the earliest harvest known since Illinois was settled.

—Henry Noble, of Pittsfield, Mass., has one of the most perfect dairy barns in the country. The barn is 85 feet long by 45 wide, consisting of four stories and basement, holds 80 tons of hay, will accommodate 44 cows, and has the modern improvements for steaming their food and supplying them with water. A novel invention of Mr. Noble's puts the cows under the necessity of hitching themselves when driven into the stalls.

—The *Iowa City Press* says that a boy named Debie, living in Johnson county, was killed in the following manner a few days ago. He was ploughing with the lines over his shoulder in the usual way, when the team suddenly jumped and pulled him over the plough handles and he fell right in front of the plough. The team continuing to run, the edge of the plough passed across his face and actually cut his throat, severing the windpipe.

—The *Germantown Telegraph* mentions that the Trustees of the New England Agricultural Society have confirmed the action selecting Lowell as the place for holding the next fair, and that about \$10,000 has been subscribed by Lowell people to have the thing a grand one, as they say down east; and very justly remarks: "If it prove to be

so, we should like to be there to see, because to carry out the word 'grand' in its true significance, the fair must be a good, old-fashioned 'cattle-show.'"

—The *Mirror and Farmer* says that on opening an ox belonging to Mr. R. B. Carrier, Deerfield, N. H., that died suddenly after having worked all day, a piece of very slender steel hoop, from a hoop-skirt, about four and three-fourths inches long was found fast in the case that surrounds the heart, and the end of it pressing against the heart had worn a hole into it as large as a walnut and finally caused death by opening the blood vessels. It is supposed that it was raked up in the hay and so taken into the stomach, and forced its way through the integuments to the heart.

—A tanner in Wisconsin has sent portions of skins from different sheep which are penetrated by the beards of grain in considerable numbers, and says full one-half of the fallen pelts he collects are caused by beards. He finds they affect fine wool more than coarse wool sheep. He thinks these beards cause a great many diseases, such as coughs, rots, &c., and consequently death. He thinks the beards get into the wool by the sheep being around straw stacks, and says they are more common in prairie than timbered lands.

—The *Gardener's Monthly* says:—"The pruning of fruit trees when required should be proceeded with at favorable opportunities. We write *when required*, for in our climate more injury is done by the knife than by the neglect to use it. Gooseberries, for instance, are usually ruined by pruning. In Europe, it is customary to thin out the center to "let in the sun and air." Here it is the sun and air that ruin them by inviting mildew, and so the more shoots the better. Our country farmers are the best gooseberry growers, where weeds run riot, and grass and gooseberries effect a close companionship."

WHAT HE KNOWS ABOUT RAISING CORN.—Mr. David Petit, of Salem, N. J., asserts in the *Rural New Yorker* that last year he raised more than one hundred and seventy-nine bushels of clear corn to the acre, and says "I will add I *know* more than two hundred bushels of shelled corn have been—and can be again—grown to the acre; and when favored with an ordinary fair season a statement will be made at a suitable time, properly attested (as it seems to be necessary for the doubting Thomases,) or to verify the assertion, with very shallow cultivation, too." Great place, the "Jarsies!" And a great corn raiser that same David Petit!

CURE FOR WASP AND BEE STINGS.—It is stated that "a good absorbent" will ease the pain of stings. "One of the best absorbing substances is lean fresh meat. This will relieve the pain of a wasp sting almost instantly, and has been recommended for the cure of rattlesnake bites. It has been used with marked effect in erysipelas." Dr.

Beecher says the best thing is strong tobacco, made quite moist and applied to the part.

RAINFALL IN NEW ENGLAND.—In a paper on "Meteorology" read at the late meeting of the Vermont Board of Agriculture at Brandon, Vt., Dr. H. Cutting of Lunenburg, said that the rainfall during twenty-four hours is rarely over one inch. Only seven times in twenty years in Vermont has two inches of rain fallen in twenty-four hours. In the South they have three times as much rain; while Vermont has three times as many rainy days. On an average, the rainfall of Vermont is forty-five inches, in one hundred and fifty-six rainy days in a year.

EXTRACTS AND REPLIES.

"GILT-EDGED BUTTER."

Will you or some of the readers of the *FARMER* please give the process of making and packing "gilt-edged butter" for market. Are there any books on the subject, and where obtained? By answering these questions you will confer a favor on a young farmer who wishes to make a good article or none. N.

Clarendon, Vt., June 13, 1871.

Having seen your remarks on gilt-edged butter, in the *FARMER* of June 10, I would like to inquire through your paper how it is made, and what packages are used? We Vermonters try, to say the least, to make good butter, and think we do, but I have never seen any one that could inform me what gilt-edged butter is, or how it is made.

NOBLE GROSVENOR.

Vergennes, Vt., June 13, 1871.

REMARKS.—The term "gilt-edged" was probably borrowed by dairymen from the vocabulary of noteshavers and money-changers, who apply the expression to the best notes or securities in the market,—possibly because some rich individual or firm may have once used writing paper with gold leaf on its edges. But neither gold edges nor superb penmanship are sufficient to constitute what is technically known as gilt-edged paper. Back of any process of manufacture is the reputation of the maker or signer for ability and punctuality. This gives the "promise to pay" its "gilt-edge"—this decides the value of the "paper," or obligation.

The same principle has followed the transfer of the expression "gilt-edged" to butter. Many people are more or less tender-mouthed as to butter, of the origin of which they have no knowledge; and a few are willing to pay an extra price for an article flavored with the good reputation of a well-known manufacturer. We have all heard of the man who always put on spectacles when he ate cherries, because it made them look larger! And the assurance that the butter which one eats himself, or offers to his friends, was made by an acquaintance,—perhaps a fancy farmer,—who is known to be scrupulously neat as well as skilful in every process, has its market value.

We were told that the highest priced butter alluded to by us a few weeks since, is made in a

dairy room with a marble floor; the milk, from fancy-priced and highly fed Jersey cows, is strained into porcelain pans; the cream is skimmed into glass jars; the temperature of the room is kept at a fixed point,—whether the mercury on the outside falls below zero or rises one hundred degrees above,—by pipes for hot or ice-cold water; and no soiled shoes or tainted clothing ever enter the apartment. The butter is delivered three times a week, *mostly to customers secured by the manufacturers themselves*. It is brought to market in neat stamps of from one pound to one-eighth of a pound each, as desired by the customer, which are wrapped in separate pieces of smoothly ironed cloth, and all covered by a napkin of beautiful diaper, and packed in a tin box. Of course, the appearance and flavor of butter thus made and packed, and thus frequently marketed, is all that can be desired.

We have no doubt that many dairywomen in the country can and do make butter about equal to that sold as “gilt-edged,” but their distance from market renders it difficult if not impossible to deliver it in the fresh and perfect condition which can be done by the few fancy dairymen who live near the city; and this distance also, in a measure at least, excludes them from the “ring” of gilt-edged butter buyers. Still we believe that with extra care in manufacture and extra pains in hunting up customers, a much better price might be obtained by those who aim to “make a good article or none.” We read about flowers that “waste their fragrance on the desert air;” and if the history of butter should ever be written, we presume that many a “gilt-edged” lump would be described that was sold for much less than one dollar a pound, or was consumed by those who would be unwilling to pay that price.

THE THREE-LINED POTATO-LEAF BEETLE.

I enclose two kinds of bugs which I find on my potato tops. Can you tell me what they are? A neighbor tells me one of them is the Colorado potato bug, but I hardly think it is so. F.

East Shelburne, Mass., June 12, 1871.

REMARKS.—Your “two kinds of bugs” are one and the same creature in different stages of its existence, and is called by Mr. Harris the “Three-lined Leaf-beetle—*Crioceris trilineata*,—Olivier.” It is not the Colorado potato bug, but an old acquaintance, and somewhat resembles the common striped cucumber bug. The Colorado has ten dark lines with intermediate stripes of much brighter yellow; the one you sent has only three dark stripes on a very dull yellow or brown ground, and is much smaller than the ten-liner, of which we have specimens sent from Indiana. Your striped beetle is the perfect insect. It passed the winter in the pupa state. After eating holes into the potato leaf a few days, it lays its oblong oval golden yellow eggs, which are glued to the leaves, in parcels of six or eight. In about two weeks grubs hatch from these eggs of a dirty yellowish or ashen white color, of a cylindrical form. They

have the filthy habit of covering themselves with their own excrement, perhaps to shield their tender hide from the hot sun, or as a protection from their enemies. This is the *other* kind of bug you sent to us. When about two weeks old it creeps down the potato stalk, goes into the ground, and about the last of July or first of August throws off its pupa dress, becomes a beetle and lays its eggs for a second brood of grubs, which like the first brood, go into the ground where they remain till about the first of June of the next year.

POTATO BUGS.—SEASON AND CROPS IN WINDSOR COUNTY, VT.

Enclosed you will find specimens of bugs that are infesting our potato fields. What are they? They are pretty numerous in some places, and I think them new in these parts.

Yesterday was a rainy day; the first since snow went off on which it has rained all day. It has wet the surface of the earth two or three inches. The grass crop will be very light this year; not more than one-half as much as last year, unless we have rainy weather so as to keep farmers from cutting it.

The prospect for fruit is not very good; the intensely hot and dry weather having killed the young fruit.

Not being used to writing for the press, I shall not be disappointed if this finds a place in the waste basket. HENRY B. HOWARD.

Randolph, Vt., June 19, 1871.

REMARKS.—Your potato bugs are the same as those received from “F.,” of East Shelburne, Mass., and we refer you to our “remarks” in reply to his inquiry. These beetles may be more numerous this year than usual, but they are no new-comers. More attention is probably given to insects on potatoes than heretofore, on account of the well-grounded fears of the appearance at the East of the Colorado ten-lined beetle, which is committing such fearful havoc in Ohio, Michigan and other Western States.

CRIBBING HORSES.

Having had the care of horses, more or less, for fifty years, I have had pretty good opportunities to watch both old and new cribbers, and have given the subject considerable thought and study. Most of the books on horses call cribbing a habit or vice and not a disease. Some speak of it as contagious; others say that it may be acquired, and some that it may be inherited. If I understand what these writers mean by these expressions I cannot agree with them, for I am satisfied that cribbing is caused by inflammation of the throat. This inflammation is produced, in my opinion, by compelling the horse to eat from a high crib, by obliging him to wear martingales, and by not giving him proper exercise.

By feeding from a high crib, the horse swallows his food with his neck curved unnaturally, and consequently with his throat more or less cramped; thus producing an effect somewhat analogous to that experienced by ministers, lecturers, &c., who cramp their necks and throats into the position which is necessitated by the attempt to speak and read at the same time.

One thing that confirms me in the opinion that cribbing is the result of inflammation or irritation of the throat caused by swallowing food with the neck in an unnatural position, is the fact that I have cured cribbers in the first stages by lowering

the feeding box to a level with their knees, thus allowing them to take their natural position in masticating and swallowing their food. The beneficial effect of a tight strap around the neck of a cribber is, in my opinion, the result of the relief it affords to the irritated throat. I have never experienced any benefit from medicine, or any other treatment in case of confirmed cribbers. Hence as an ounce of prevention is better than a pound of cure, I would recommend low feeding boxes, and exercise in proportion to feed and condition of the animal.

E. RICHARDSON.

Fitchburg, Mass., June, 1871.

AGE OF APPLE TREES FOR BUDDING OR GRAFTING.

Having some four or five hundred young apple seedlings, raised with especial care, I would esteem it a favor, if you would inform me in your most valuable paper about them. They are not grown for sale, but to transplant for my own, or at least, my children's benefit. They are in the third year from the seed, and looking finely. Shall I have better trees in the end if I postpone budding or grafting them for another season or two, than if I have it done this summer? I do not wish to force their growth or hasten their period of fruitage at the expense of the best results by and by. I would be glad to know if giving age to their roots before budding or grafting will add essentially to their chance of becoming perfect trees.

S. B. KEACH.

Providence, R. I., June 18, 1871.

REMARKS.—If the truth of the adage that "it is hard to learn old dogs new tricks," is applicable to the roots of the seedling which we wish to learn to feed a tree of a different kind; or if we avail ourselves of the practice of experienced nurserymen, our conclusion must be that budding or grafting should be done early, and that you will not gain anything by delaying another year or two longer, if your trees are of suitable size for budding. Budding, which is applicable to stocks of from one-fourth to three-fourths of an inch in diameter, has several advantages over grafting, which is usually performed where the stock is one inch or more in diameter. Budding is a much less laborious, or rather much more expeditious process than grafting; and if the bud fails, the operation is far less injurious to the stock than that of grafting. For either process the trees should be in a thrifty condition at the time the work is performed. Our impression is that nurserymen bud largely stocks two years of age, where the trees are on good soil, and from that up to four years of age,—but are governed more by size than age.

K. O. AND J. H. ON CORN GROWING.

I notice an article from K. O. He complains of some writer that thinks his statement is too indefinite. A farmer who writes to benefit his brother farmers ought to give his name, place of residence, his method of doing his work, with all the items of expense; also the number of acres under cultivation, with the income in bushels or pounds, as the case may be, with the market price of such products.

I would be willing to go a long distance to hear a discussion on farming, between Mr. J. H. of Shrewsbury, and Mr. K. O. of some indefinite place. I will make a definite point. K. O. says it has been a practice to put on from forty to forty-six

cords of manure, worth as much as stable manure, then from fifty to seventy-five barrels of fish, and after this, an indefinite amount of manure in the hills. All this for an indefinite number of bushels of corn, and a crop of oats, at a two years' expense to raise them. Then go over the same indefinite course again for a second crop of corn and grain, with hay seed!—(Does K. O. mean to be understood that he sows some or all kinds of grain and hay seed with his corn)—which completes the rotation (what a rotation)! and gives five or six crops of hay?

K. O. thinks it difficult to give corn too much manure. He says it must not be put in the hill. To be more definite he should have said it should not be put where the corn could be affected by it. He compares manure in the hill to rum in man. What an idea! Let us define. Give to every man a barrel of rum, he would soon kill himself, and the race would soon be extinct; but let the moderate drinker go to the saloon and buy a glass at a time, and he may live long enough to raise up quite a crop of drunkards. So with corn; you spread on some fifty cords, more or less, of manure, and you can raise a small crop of corn for years, but should you put that quantity of manure in the hills, you would probably burn up the crop at once. Let us keep some kind of a medium course. For instance, when more than sixty bushels of shelled corn are raised to the acre, we get beyond what is profitable.

There are several questions of magnitude involved in the article of K. O. which I should be glad to review, but I am limited to seventy-five minutes, at this time. If J. H. of Shrewsbury, and K. O. of somewhere, will continue the discussion in reference to the corn crop, I will willingly write my views over my own name. We three might form a triangle, that would give some kind of limitation, (as the surveyor of land would say) to the subject of the corn crop.

ROBERT MANSFIELD.

Wellesley, Mass., June 2, 1871.

BARK LICE ON TREES.

I wish to call the attention of farmers to the importance of destroying the bark scale both on pear and apple trees. It is not generally known how much injury is done by these small insects. Many orchards are almost destroyed by them, for want of due care. The oyster-shell scale is by many entirely overlooked, it being of nearly the color of the bark of the tree. The white scale is more visible and easier detected. In 1838, I began to exterminate them by a wash of potash, and succeeded to clear my trees that were overrun with both kinds. I continued it yearly, in the spring of the year, and my trees have not suffered since, while many others are complaining of the injury their trees are suffering. For the last three years I have used the crude wood ashes, unleached. I put about three quarts of ashes into a bucket of water, and mix it well, and with an old broom put it on the trees, rubbing them well with the broom. It leaves a quantity of the ashes on the tree, and every rain gives a new wash from the ashes left on the bark. I have found this a perfect remedy if done faithfully. It should be stirred often, so as to give a due quantity of the ashes to every tree. It may be put on at any time. But I would recommend April and August as the best times for application. The ashes and old broom are in possession of every one, so no excuse can be made for not exterminating the great evil of bark lice or scale.

S. A. SHURTLEFF.

Spring Grove, Brookline, Mass., 1871.

REMARKS.—We thank our correspondent for his valuable suggestions in regard to this evil. Per-

sons not engaged in the cultivation of orchards, have little idea of the damage annually done by these little insects, almost so minute as to be seen with difficulty by the naked eye. Their name is legion. While pruning last October, we found several trees in our own orchards with scarcely a branch upon them but was covered with the scales of these insects. Carefully removing a scale from the bark, and turning it upside down under the microscope, we could see from one to a dozen little white eggs. Harris says there are sometimes as many as 100 under a scale. They must be exceedingly minute to be so numerous in so small a space.

When a tree is badly infested, it has the appearance of decay all over it. If there are branches entirely free from the insect or scales, they bear the marks of disease. The limbs look dark and shrivelled, and are as expressive of illness as is the countenance of a sick animal.

These creatures cannot live upon air alone. It is probable that they puncture the bark and draw away the juices of the tree, so that the branches are deprived of their food, and they gradually die of starvation.

The remedy suggested by Dr. SHURTLEFF is a simple and cheap one, and would be useful to a healthy tree. We have a statement from a gentleman who made many careful experiments to prevent or to destroy these plagues. He found how to destroy them at last in the use of fish brine; that is, the brine in which mackerel are salted. This is slightly oily, and when diluted with water, is rubbed upon the branches with a cloth or with a broom. He also sprinkled the tender foliage and blossoms of apple trees, and found no injury resulting from it. This also, is a cheap remedy, and one easily applied.

Persons will do well to regard the suggestions of our correspondent, and not allow the month of August to pass without a thorough routing of the enemy.

THE DIFFERENCE.

Jones is a firm believer—hence
He manifests his faith
By works—in good substantial fence;
And this is what he saith:—
“I fence to keep my cattle in
And other folks’ out;
I find no breechy cattle where
The fence is good and stout.”

Smith’s fences are of every sort
Found in the catalogue;
And all the shapes—the long, the short,
The running fence—or dog,
His cattle know no stated bounds,
But travel at their leisure,
In quest of food, the fields’ wide rounds,
Out and in at pleasure. J. W. Z.

Maine, July, 1871.

GRASSHOPPERS IN MAINE.

For some time past we have heard remarks about the abundance of grasshoppers, and this week apprehensions of fearful damage are expressed. Their numbers are infinite, and though as yet only about half an inch in length, beans, peas, potato tops and such like disappear as though some fell destroyer had passed over them. I am not aware

that they have been known to appear in anything like the present numbers at so early a day in this country. A farmer fifteen miles above this place, on the river, gave me to-day a glowing description of their depredations, from which I conclude that they are full as numerous there as here; and I learn by a lady that the same is the case about the same distance south of here.

With the severe dryness of the past season, and early part of the present, crops are not as promising as we would wish; but being one that thinks it better to look upon the bright side, and if possible to discover the “silver lining” of the darkest cloud, I do not expect that we all shall starve, even though the grasshoppers are coming, or have come.

O. W. TRUE.

Farmington, Me., June 27, 1871.

Ladies' Department.

From the Little Corporal.

BABY'S FIRST TOOTH.

BY PRUDY.

Come, look at the dainty darling!
As fresh as a new-blown rose,
From the top of his head so golden,
To the dear little restless toes,
You can tell by the dancing dimples,
By the smiles that come and go,
He is keeping a wonderful secret
You'd give half your kingdom to know.

Now kiss him on cheek and forehead,
And kiss him on lip and chin;
The little red mouth is hiding
The rarest of pearls within.
Ah, see! when the lips in smiling
Have parted their tender red,
Do you see the tiny white jewel,
Set deep in its coral bed?

Now where are the sage reporters
Who wait by hamlet and hill,
To tell the listening nation
The news of its good or ill?
Come weave with your idle gossip
This golden blossom of truth—
Just half a year old this morning,
And one little pearly tooth.

SEASONABLE RECEIPTS.

The following receipts are selected from the *Germantown Telegraph*. We should like to hear from some of our lady readers, to help keep this department interesting, as we feel sure that our New England housekeepers are quite as good cooks as can be found in any part of the country.

RASPBERRY VINEGAR.—Put a pound of very fine ripe raspberries in a bowl, bruise them well, and pour upon them a quart of the best white wine vinegar; next day strain the liquor on a pound of fresh ripe raspberries, bruise them also, and the following day do the same but do not squeeze the fruit or it will make it ferment, only drain the liquor as dry as you can from it. The last time pass it through a canvas bag previously wet with the vinegar, to prevent waste. Put the juice into a stone jar, with a pound of sugar to every pint of

juice; the sugar must be broken into lumps; stir it, and when melted, put the jar into a pan of water; let it simmer and then skim it; when cold bottle it. It will be fine and thick when cold, and a most excellent syrup for making a wholesome drink.

RED CURRANT JELLY.—The following receipt for making this jelly I have used for several years, and think it much better than any other I have tried or seen recommended: Put your currants in a bell-metal kettle and scald them well; when cool press them through a sieve, getting out all the juice, (be careful not to allow any skin or seeds to pass through the sieve,) measure the juice and put it back again in the kettle and let it boil hard for five or six minutes, skimming it well; then add while on the fire boiling one pound of sifted loaf sugar to every pint of juice; stir it till dissolved and then it is done and ready to put in the tumblers. It tastes much more of the fruit and is of a beautiful light color. Will keep for years if necessary.

LONG BRANCH BERRY PUDDING.—One and a half cups of flour, one-half cup molasses, one-half cup of brown sugar, three pints of berries, (raspberries, blackberries or whortleberries,) one small half tumbler of water, and boil two hours. To be eaten with beaten sauce. Two eggs are an improvement, as they keep the pudding in better shape.

CURDS AND WHEY.—Infuse a piece of rennet in a little boiling water as for making cheese; let it stand an hour or two; then put a tablespoonful to three pints of new milk warmed. Cover with a cloth and leave until the curd is thick. Press out and use the whey, or sweeten and use both whey and curd. This makes a very nice dessert for dinner.

CORNEBEEF.—In cooking corneb, at this season of the year so delicious, it should be put into boiling water when put on to cook, and when it is done it should remain in the pot until cold. This is the whole secret of having corneb beef juicy and full-flavored, instead of the contrary.

COOKING OLD POTATOES.—The following method of cooking old potatoes is highly recommended, and this is the season of the year to try it: Pare the potatoes about an hour before boiling, and then soak them in cold water until they are to be cooked. The water must be boiling before they are put in and a little salt must be added. When done the water is poured off and the pot is placed near the fire with the lid removed to allow the moisture to escape. The potatoes will be dry and mealy.

TO PREVENT BREAD FROM DRYING.—Keep a wet cloth around the loaf that is being cut from and wet every time after a meal. This will keep the bread in a fresh state.

TO KEEP BUTTER IN THE SUMMER.—A simple mode of keeping butter in warm weather,

where ice is not handy, is to invert a common flower-pot over the butter, with some water in the dish in which it is laid. The orifice at the bottom may be corked or not. The porousness of the earthenware will keep the butter cool.

TO PRESERVE FLOWERS FRESH.—A vase of flowers can be retained in freshness much longer by using soapsuds or soaped water. Try it.

STING OF INSECTS.—An Indiana correspondent writes thus: Tell your readers that a few drops of coal oil dropped on parts stung by bees, wasps or hornets will give instant relief.

A NEW USE FOR OLD BULBS.

During a recent visit to a most delightful garden, I got a hint of a use for old bulbs, which may interest many of our readers. It must be remarked, first, that there are several extensive runs of holly and thorn fences, and a few bits of half-wild scenery in the place; and, further, that all the best early flowering bulbs are grown in exhibition style for the conservatory. It is the gardener's rule to buy every year for this purpose, and it is his rule also not to destroy a single bulb. He disposes of them in a short and summary manner. When they are done blooming, they are transferred to spare pits for the advantage of a little shelter, and of course they get a little water occasionally. As soon as mild weather occurs in the early part of April, they are all planted out in front of the green fences and in the borders and odd nooks of the wilder parts of the garden. The process of planting consists in opening holes and turning out the ball complete, without even removing the crocks from it. The result is that wherever you go in the spring of the year about this place you see thousands of snowdrops, crocuses, tulips, hyacinths and other equally beautiful flowers as they open in succession; and in a majority of cases they are really fine in quality, the crocuses and tulips especially. If a great heap of cut flowers are wanted there is no difficulty in obtaining them, and I was informed that a very great cut is made every year for the dressing of the parish church at Easter. The bulbs are not the only things that are naturalized in this way, for the banks and boundary lines are smothered with violets, primroses, several varieties of narcissus, and other equally desirable hardy plants, all of which have been turned out of pots when done with, instead of consigning them, as is usually done, to the muck heap.—*Gardener's Magazine.*

CORAL JEWELRY.

The Paris correspondent of an English paper directed the attention of sightseers in the late Exhibition to the brilliant display of coral jewelry from the establishment of an

eminent London jeweller. His cases contained specimens of every variety of natural coral, as well as of every ornament into which it has been wrought by art. The necklaces, bracelets, earrings, beads, bouquets, foliage, cameos and bas-reliefs were described as of the most elaborate workmanship, and exquisitely mounted. One of the necklaces was valued at something more than \$2300 in gold.

This account may surprise readers who have never associated any idea of beauty with the manufactured forms of coral. It is no wonder, for taste and skill are not too plentiful in the world, and the jewels of this material which we commonly see are coarse, clumsily cut, and dear at any price.

To secure a different result several things are needed. Of the varieties of coral known to commerce the number, we believe, is fifteen. There are several which are totally unfit to be worked into the higher forms of ornament. A discriminating choice of material is the first step. The second is the determination of the form. For this an artistic taste is needed, which does not make part of the stock of every goldsmith. The third indispensable requisite is a skilful hand. The cutting must be at once sharp and delicate, and nothing is easier than to bungle.

Under certain conditions coral is an excellent material for art. Its beautiful color, the solidity of its tissue, its resistance to atmospheric action, and the fine and soft polish which it readily assumes combine to recommend it. But while human artists can work it into forms more convenient for our use, they can never hope to attain the skill of the little workmen under the water. Natural coral has brought before now twenty times its weight in gold. We believe that there is at present among the collection in the cabinet of Yale College a specimen which is unsurpassed in this country.

CHILDREN.

As for children, it is admitted that they are barbarians. There is no exception among them to this condition of barbarism. This is not to say that they are not attractive; for they have the virtues as well as the vices of a primitive people. It is held by some naturalists that the child is only a zoophyte, with

a stomach, and feelers radiating from it in search of something to fill it. It is true that a child is always hungry all over; but he is also curious all over; and his curiosity is excited about as early as his hunger. He immediately begins to put out his moral feelers into the unknown and the infinite to discover what sort of an existence this is into which he has come. His imagination is quite as hungry as his stomach. And again and again it is stronger than his other appetites. You can easily engage his imagination in a story which will make him forget his dinner. He is credulous and superstitious, and open to all wonder. In this, he is exactly like the savage races. Both gorge themselves on the marvelous; and all the unknown is marvelous to them. I know the general impression is that children must be governed through their stomachs. I think they can be controlled quite as well through their curiosity; that being the more craving and imperious of the two. I have seen children follow about a person who told them stories, and interested them with his charming talk, as greedily as if his pockets had been full of *bon-bons*.—*My Summer in a Garden*—Charles Dudley Warner.

LITTLE THINGS.—The preciousness of little things was never more beautifully expressed than by B. F. Taylor in the following: "Little words are the sweetest to hear; little charities fly farthest, and stay longest on the wing; little lakes are the stillest; little hearts are the fullest, and little farms are the best tilled. Little books are the most read, and little songs the most loved. And when nature would make anything especially rare and beautiful, she makes it little—little pearls, little diamonds, little dewdrops. Everybody calls that little which he loves the best on earth."

LITTLE ALICE found out an ingenious way of getting to bed in a hurry. The crib in which she slept was so low that, by placing one foot on the inside, and taking hold of the post, she could easily spring in. "Mamma," she said to her mother, "do you know how I get to bed quick?" "No," was the reply. "Well," said she, in great glee, "I step one foot over the crib, then I say 'rats,' and scare myself right in."



THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

THOUGHTS FOR SEPTEMBER.

"Happy the man who flies the city throng!
Every tree, every brook that flows along,
Every pebble within its sparkling rim
Preaches wisdom and holiness to him."



ANOTHER summer has departed, with its scorching suns and parching droughts, and the gorgeous livery which she had put on has faded into wrinkled age.

The year is on the wane. Its fulness and vigor are gone.

"It has reached the summit of the hill, and is not only looking, but descending into the valley below." The grass and grain

harvests have been gathered in, while our great Indian Corn harvest waits for more cheering suns, and the fervid September days. In robbing us of summer beauties, Nature does not leave us without new objects of enjoyment.

Those who have eyes to see, and thoughts to go out through them, and have also a little prying curiosity, may find themselves in a comparatively new world in September, peopled by new forms in both kingdoms; animated by

sights and sounds all peculiar to the month. It is "the rejoicing month for joyful insects; it is the most populous and the happiest month. The hens splash in the hedge, fish seek the deep pools, forest fowl lead out their young, the air is resonant of insect orchestras, each one carrying his part in nature's grand harmony. September, thou art the ripeness of the year! Thou art the glowing centre of the circle!"

Country life is a favorite theme of poets, and it is country life that makes poets,—the source from whence they draw their inspiration and facts for illustration and instruction. It is a pity that so many in the city cannot enjoy it, and a pity that so many in the country do not appreciate it.

How much we need—do we not?—some ukase of a despot, some imperial mandate, ordering a thousand or two at a time of discontented farmers into the city to labor in the occupations there,—in murky counting-rooms, overcrowded benches, or tied down to long and tedious hours over the counters in grocery, dry-goods and shoe stores, or the business of numerous other callings! Travelling daily over the same narrow and unsuggestive paths, shut in from the fragrance of flowers, the invigorating breezes of heaven and the glowing manifestations of an ever-present Deity, which are the common, every-day blessings of the farmer!

To gain life's chief end, usefulness and hap-

pininess, most of us must live in the country and labor there. It is the yeomanry of the country, the tillers of the soil, who are the nation's strength; what they draw from the soil must sustain us or we die. And yet, it is so ordered, that in securing those supplies we are in the midst of the most fruitful sources of happiness, and under those conditions where we can be most useful to the world.

Old Nathaniel Cotton was right in saying,—

If solid happiness we prize,
In *our own breasts* the jewel lies,
Nor need we roam abroad.

Who will become the great reformer in this matter, and like Israel's leader, bring out our people from a state of discontent in their vocation? Who shall be clothed with the power of the Grand Turk for a season, to change the conditions of men, so that each shall realize the responsibilities, cares and employments of the other!—the citizen to rural life, and the farmer to the city. The experiment is going on daily in a small way, but is needed on a grander scale.

We do not mean to say that farmers should sit down or labor on without sometimes gratifying a desire to see how people live and prosper in other avocations, and by visiting other localities than their own, learn more of the wisdom and power of the Great Cause of all things. It is a duty to learn all we can of the wonderful operations with which we have to deal, and of everything which influences them.

So, when the hay harvest is over, and the weeds are under subjection, it will not be extravagant for the farmer to "barness up," and with as many of the family as the faithful steed can comfortably take along, spend a week or more, or less, in visiting relatives or friends. By mingling freely, taking a lively interest in their affairs, putting a good many questions and exercising a lively observation, health will be promoted, the spirits made more buoyant and hopeful, and the mind filled with new and agreeable topics for reflection or discussion at a future time. Such journeyings for the family do not, in the long run, lessen the profits, but rather tend to increase them, while they certainly are days of recreation and high enjoyment.

The weather during the summer has been delightful. A little too dry, perhaps, but sufficiently damp to produce an abundant foliage on fruit and forest trees, to bring out

charming flowers, keep the garden in a fresh condition, and to sustain nearly all the crops excepting the grass.

Last year, in June and July, the elements seemed to be greatly disturbed. We were melted with fervent heat, drenched with pouring rains or pounded with hailstones of alarming size. We looked through a powerful telescope to see if there were not some unusual commotion in the elements of distant worlds, or in those of our own, but all seemed as calm as the beautiful mornings of some of our summer days. We peered into the face of the planet Saturn, took an imaginary walk all around his rings, called at two or three of his eight moons, and indulged our curiosity so much as to stroll a few millions of miles down the road between the rings and the planet, but discovered nothing which would seem likely to disturb our mundane affairs.

The latter part of summer brought plentiful rains, so that the earth is crowned with gladness. The hay crop is light, but all other crops are promising well. The soil is now in condition to bring an abundant second crop on the mowing fields, and to secure good feed in the pastures. If frosts are delayed, a good corn crop may be expected. Wheat, oats, barley and rye, have yielded well, and have been harvested in good condition. Let us all labor on with pure and cheerful hearts, and all will be well.

WEEDS AND WEEDING.

As a sort of introduction to two or three short articles on weeds, which follow, we give some experiments which were made in England a few years ago, to test the

Value of Weeding.

On some of the large estates in England, experiments of much value are made with great fidelity and cost, which have not been entered into, as yet, among our people.

1. Seven acres light soil were sown to wheat broadcast: one acre was measured and not a weed pulled out of it; the other six were carefully weeded. The unweeded acre produced eighteen bushels; the six weeded acres averaged twenty-two and one-half bushels per acre—a clear gain of 25 per cent.

2. A six-acre field was sown with barley. The weeding, owing to the great abundance of charlock, cost \$3 per acre. The produce

of an unweeded acre was thirteen bushels; of the weeded, twenty-eight bushels per acre; thus showing a difference of fifteen bushels per acre, besides the enormous advantage of having the land cleared for the next crop.

3. Of six acres sown with oats, one acre, unmanured and unweeded, yielded only seventeen bushels; the rest ploughed three times, manured and weeded, produced thirty-seven bushels to each acre.

It will be remembered, perhaps, that the English practice is to *weed* their grain crops, whether of wheat, barley or oats. They usually sow in drills, which makes the weeding much less difficult than in broadcast sowing.

Destroy the Weeds.

After they once commence the work of haying, many farmers are extremely reluctant to leave it to perform any other work. It is quite certain, however, that there will be more or less of other work to be done every year, during the season of securing the hay crop. One item of this work is to destroy the weeds.

Farmers leave haying to secure a wheat, oat, or barley crop, because it would be a decided loss to let it stand; but the same persons will allow a luxuriant *weed crop* to perfect its seed and be scattered over many acres of the farm. This is abundantly evident every year to those who travel through farming districts. If one should come and sow an equal amount of vile seed over the farm, he would undoubtedly be prosecuted and heavily fined, as he should be, for such a misdemeanor.

Cannot both branches of duty be attended to in their proper season, so that neither shall suffer? We think they can.

In the first place, do not allow the work among the hoed crops to be delayed. Commence on the young corn, potatoes, and all other plants, as soon as they are fairly out of the ground, and, taking them in turn, go over them two or three times. When this is done, it must be a very foul soil that will produce many weeds before the first of August. If it does produce them, it is more economical to extirpate them by a day or two of labor than to allow them to stand. If not disturbed, they will probably injure the crops among which they grow, more than the grass would be injured by a few days' delay in cutting. Added to this, will be the serious evil of having the fields lavishly filled with the seeds of a variety

of hardy and persistent weeds, which may remain as a pest for many years.

If, on the approach of the haying season, the grass fields are examined, and those that are the earliest matured are cut first, and this course followed throughout, the postponement of cutting a few acres for a day or two would not be attended with a loss at all comparable with that of allowing a crop of weeds to go to seed. There might be exceptional cases, but not many.

Farmers continually complain of the great labor required to keep down weeds, while the wormwood and pig weeds are breast-high among the corn hills and along the edges of their fields. So acres upon acres of potatoes present the appearance of a crop of worthless plants, the potato vines being completely overshadowed by them. The crop of tubers will probably come out in proportion to the vines which struggled for life over them.

The great loss to the farmer in subduing weeds, and the loss they cause in exhausting the power of the soil, which ought to go to the crops we are cultivating, are not yet appreciated. More attention should be given this matter by every one who has a crop to tend. It is bad enough to fight the insects over which we have little control, but it is a greater evil to see pestilent plants destroying the crops, and entailing losses upon generations to come.

Weeds on the Highways.

Weeds are undoubtedly the most expensive crop a farmer can grow. Some farmers are aware of this, and will not allow them to grow in their fields. They are subject, however, every year to the cost of destroying those which have been sown by *other persons* upon their lands. Every farmer who allows burdocks and thistles to grow and perfect their seeds on the roadsides against his fields, virtually sows their seeds upon his neighbor's land.

In some countries, there are laws under which a farmer may bring suit against his neighbor, who neglects to destroy weeds in his fields, or upon the public highways adjoining his premises. There was such a law, we think, in Massachusetts, some years ago, in regard to what is called the Canada thistle,—and it operated beneficially.

In Denmark there is a law to oblige the farmers to root up the corn marigold, and a clause enforcing the extirpation of weeds in

hedges along the sides of roads passed the House of Commons in England sometime ago, but was thrown out by the House of Lords.

This matter of the destruction of weeds, both in fields and on highways, would be a good subject for discussion in all *Farmers' Clubs* next winter. Through their attention and influence, some means may be devised to awaken an interest in farmers to combine, and by united action, to abate the wide-spread and expensive evil.

What Shall be Done with Weeds?

Certainly, not pulled and left upon the ground, if *their seeds are only formed*. It is not safe at this stage of their growth to throw them into the hog-yard, or to put them in a heap with manure. Nor will it be safe to leave them upon the ground where they grew. Some of them are so tenacious of life that, even if the plant be pulled up, it is said that the sap will flow upward, the flower will bloom, and the seeds ripen to be scattered over the fields the next year. There is no killing them by gentle means. They will live three feet under ground for years, and if the land is again stirred to that depth, up will spring a thick crop of weeds, again to flourish in their full strength. We have seen a stout pigweed pulled entirely out of the ground, with the exception of the end of a very small root, not only to go on and live, but to blossom and perfect a large crop of seed! Do not trust them in any position, where a complete decomposition will not speedily take place, either by fire or the agency of some strong alkaline or other substance.

If dried on the ground after the seed is formed, there will be danger. If thrown into heaps, they will not be likely to rot before some of them have perfected seed. If thrown to swine, a portion of them would be left to go on with their work of maturing seed, and so it would be if they were mingled with manure. They cannot well be burnt in their green state, so that the safe and economical course is to throw them into a compact heap, and mingle them with quick lime, or wood ashes, or keep them moist so that they become thoroughly heated and decomposed. Even then, the mass should lie exposed to the sun and air until quite certain that the vitality of the seeds is destroyed.

A SMALL FRUIT GARDEN.

A correspondent of the Rochester, N. Y., *Rural Home*, probably the proprietor of the Mt. Hope Nurseries, says: One of his foremen, owning a garden 80 by 100 feet, has handed him the following statement of fruit sales during the season of 1870. His trees are twelve years old.

5 bu. Shropshire Damson plums from two trees,	
\$3 per bushel,	\$15 00
2 bu. mixed Plums, \$2 per bushel,	4 00
1½ bu. Flemish Beauty Pear, \$3 per bu.,	4 50
3 bbls. Louis Bonne from 4 trees, \$7 per bbl.,	21 00
1½ bu. Buere Giffard Pear,	2 50
1 bu. Bartlett Pear,	3 00
2 bu. Beurre d'Anjou Pear, \$4 per bu.,	8 00
3 bu. Duchesse d'Angouleme, \$4 per bu.,	12 00
	<hr/> \$70 00

Six gallons of wine were made from grapes grown in the same garden. Vegetables enough for family use were raised among the trees. This is certainly a very satisfactory statement and should encourage others to make a like good use of their small lots. In the same neighborhood there are many others who are doing equally well with their fruit.

DEAR FEED.

On the 5th of July, J. L. Pickering sold at auction the grass on some thirty acres of land, for a price \$150 greater than that brought last year for the crop on the same lot. On some parts it is reckoned that the hay will cost the purchaser about \$35 a ton, allowing nothing for cost of cutting or chances of loss in curing. A ton of hay on Main street, to-day, (Concord, N. H.) is reckoned as worth \$40, or very close to it, and grass standing in the field as \$30 a ton. On the same day as this sale a ton of corn could be had for a trifle less than \$30. Knowing the value of each article as productive of flesh, fat, or power in their cattle and its price, any man can make his own figures and decide what is the most economical feed for his stock.—*N. H. Patriot*.

A perusal of the above may be the means of collecting and preserving many tons of fodder. The fodder-harvest will not end until the Indian corn crop, and the aftermath of the grass fields, are secured. If the utmost care is observed in all this time to gather up every thing available in the way of fodder for stock, and to secure it in good condition, hundreds of tons may be saved that are usually neglected when the hay crop is abundant. With such care, the farmer may possibly be enabled to winter his usual amount of stock, and have a few tons of marketable hay to spare at high prices.

A meagre grass crop has been anticipated all over New England, and has led to the occupation of a large amount of land with corn for fodder, millet, oats, hungarian grass and clover. The season, so far, has not been altogether favorable for these crops, but so much has been done, that they will compensate in a

considerable degree for the lightness of the grass crop. If the farmer, therefore, by extra care in collecting and carefully making, saves what under other circumstances he has been in the habit of neglecting, these shortcomings may prove advantageous to him after all.

Again, who knows now, what blessings may come by plentiful rains, delayed frosts, rich pasture feed and abundant second crops? "It is a long lane that has no turn," and a long drought that has continued nearly two years.

Let us not anticipate inconveniences that may never arise, but make all possible provision for the future by preserving what we do have; hold on to our stock, husband all our resources with economy, and cherish an unfaltering trust in Him who ruleth all things well.

For the New England Farmer.

HOBBIES.—BLOODED STOCK.

There is another hobby fixed up for the farmer, fraught, perhaps, with more mischief to his interest than most any other. I should not dare refer to it, did I not feel that so obscure an individual as I am, should my views ever meet the public eye, would be looked upon in the light of a very small dog baying the moon; and therefore would not excite any attention from the very learned advocates of the subject I am about to mention. I refer to the raising of what is called stock of pure blood.

My attention has been called to this for two reasons. One is the great prominence that was given to this subject at the meeting of the State Board of Agriculture at Framingham last winter, in which it seems to me that the speakers really proved the very converse of what they intended. And secondly, the efforts that are being made to exclude from competition for premiums at our County Fairs, all bulls, the pedigree of which is not found in some herd book.

Now if the bull of any other breed whose pedigree cannot be traced to an importation from some foreign country is excluded, why not all cows, also, and so proclaim at once, that no excellence or improvement is to be expected from any other quarters than from these far-fetched and dear bought animals? As well might all ploughs, all mowers, and, in fact, all agricultural implements, excepting those of a particular manufacture, be excluded on the same principle, viz., that it is idle to look for improvement anywhere else?

I start with the proposition that very little is established in regard to the physiology of stock breeding, if you depart from the rule

laid down many years ago by a quaint old man, that the breed of the pig always went in at the mouth; or of the other man, who sold his neighbor a cow after the said neighbor had milked the cow himself and measured the milk till he was satisfied of the amount she gave; but who after getting her home found a great falling off, and upon complaining to the seller about it, was told for answer, ah, I sold you the cow, but I did not sell you my meal chest; thus conveying the idea that it is feed and not breed that really makes the chief difference in cows for dairy purposes.

Now, of what particular breeds the seven pairs were that Noah took into the ark, I do not pretend to conjecture, but unless there were more than one pair of a kind, it follows that our modern breeder has not such enlarged views of cattle breeding as the antediluvian herdsmen had, when it was deemed necessary to preserve seven pairs after their kinds; for in our days we must be confined to two or three.

The first speaker on this subject was Prof. Law, who spoke of the fundamental principles of breeding. He said "we find that the foundation of all success lies in the common aphorism, 'like produces like,' or, I suppose, in other words, that like causes always produces like effects. "As the acorn develops into the oak, and wheat into the wheat plant; as the horse, ox, ass, sheep and pig reproduce their respective kinds, so are the corporeal, constitutional and mental qualities of particular animals reproduced in their progeny." "The rule holds alike as regard good qualities and defects."

Here, then, I thought, the Professor had laid a foundation for his superstructure, but soon, it seems, he began to think that this foundation was too broad altogether: for pretty soon he says, "but the fundamental principle that like produces like, is not an inviolable rule; were it so, every breed would retain the same qualities throughout all time and no improvement would take place," or, in other words, it seems to me, that like causes do not produce like effects. "Variations always take place, sometimes from unknown causes; sometimes from causes under our control; and in our ability to solicit, to foster and to perpetuate such variations lie all our powers of improving a breed."

The Professor then goes on to show that some of the known causes of variation consist, first, in feeding. He says, "under a more abundant diet the intestinal canal of the domesticated cat and swine becomes more lengthy and capacious than their wild progenitors. Hogs allowed to run wild on the bleak Falkland Islands, have reverted in form and other characteristics to the type of the wild boar. Not so with those turned adrift on the rich soils of La Platte or Louisiana. A similar result took place in a pig which was seized at two months old with a disease of the digestive

organs, which permanently interfered with digestion and nutrition. Though a highly bred Berkshire, it assumed the long snout, the coarse bristles, ridged back, flat sides and long legs of the wild boar or unimproved breeds."

But I must not multiply quotations. The Professor goes on to show that food, climate, removal to foreign countries, soil, the imagination, and so many other things come in to modify his general principle, as to prove to my mind that more depends on the feeding than the breeding. Under the head of imagination, he refers to the case of Jacob and Laban, and says, "how much was miraculous and how much a natural consequence we don't know. That God took this means of blessing his servant, does not necessarily imply that He made use of other than the already existing physiological laws, and intensified them, as when he now cheers the land with an abundant harvest."

Now whether this intensification of the laws of nature so as to make them produce results out of the common course of action is good philosophy or not, I do not pretend to say; but the result mentioned in the Bible, looks very much to me in the light of a miracle or a special providence, if you please. I prefer to consider it, for my present purpose, in this light, and I think that any one who will read the 10th and 12th verses of the 31st chapter of Leviticus will come to the same conclusion.

I feel I am extending these remarks to too great a length, and must defer till another time some more thoughts on this matter. I intend to glance at the opinions of some other speakers on this subject, and also to say a word in regard to their bearing on the practical farmer, in excluding from competition at our County Fairs all male animals except the progeny of these far-fetched and dear bought animals.

J. L. HUBBARD.

Peabody, Mass., July 21, 1871.

For the New England Farmer.

OUT-DOOR GARDENING.

"Now comes fulfilment of the year's desire;
The tall wheat colored by the August fire
Grows heavy-headed, dreading its decay,
And blacker grows the elm trees day by day.
About the edges of the yellow corn,
And o'er the gardens grown somewhat outworn
The bees go hurrying to fill up their store,
The apple boughs bend over more and more;
With peach and apricot the garden walls
Are odoriferous, and the pears begin to fall
From off the high trees with each freshening breeze."

Our gardens at this season richly repay us for all the care and attention expended upon them. Every color and shade are represented in the beds cut into the lawn, or edging of the walks. Geraniums are in a blaze of glory. Some of the double varieties are particularly beautiful, and outshine all our other pets. From the Innisfallen Greenhouses we obtained Andrew Henderson, which is one of the finest that is grown; it is of the deepest, richest

scarlet tint; and each cluster will often contain from sixty to seventy blossoms. Madame Rose Chameux is of a perfect rose color, its flowers are very double and perfectly formed. Gloire de Nancy is a carmine crimson, flowers double as a rosette. Ville de Nancy is somewhat similar to the preceding, but its leaves are beautifully zoned, and its clusters of flowers are of a larger size. Mons. R. Abel is of an exquisite rose color, shaded to carmine, and is said to be the prettiest colored of all the double varieties. Rose Queen is of a lighter rose, and is particularly desirable for window gardens. Ascendency is a shrubby growing species, with zonale leaves well defined. Marie Croussee is the lightest colored double geranium yet cultivated, and its flowers are very double.

All of these varieties are most desirable for winter culture, on account of their freedom from the attacks of insects; not a spider or aphid ever approaches them. At this season preparations should be made for window gardening.

Cuttings strike very rapidly in these hot days, and all kinds of plants can be propagated. In a few weeks vigorous plants can be procured if we but select large, strong-growing shoots, cutting them eight to nine inches in length, and leaving a bud, or heel, as the gardeners term it, at the base. Plant them one inch deep, about the edge of pots filled with good loam, and a layer an inch in depth of scouring sand. Wet it thoroughly, then insert the cuttings—planting them firmly in the sand; set the pots in the shade for three or four days, then give them sunlight, and be very sure to water them at night and morning, for if allowed to dry they will surely die. In this way, a goodly supply of fresh young plants can be secured, and they will bloom earlier in the winter than the older plants, if they are strong and vigorous. Such plants are considered far more desirable for window gardens than those which have bloomed during the summer. Plants require a season of rest, and if our Heliotropes, Geraniums, Roses, &c., have bloomed profusely during the summer, we cannot expect them to blossom when the sun has partly withdrawn its invigorating rays.

It is only in California and other lands of the sun that such plants will flower for twelve months in the year. If the buds are all picked off from our house plants during the summer months, they will make fresh efforts to fulfil their mission and be adorned with beauty and fragrance in the winter. We dislike to sacrifice the fair promise of blossoms, and yet if we are willing to do so we shall reap our reward when skies are wintry and the grass sear and brown.

Climbing Vines.

Every porch, piazza, or veranda should be ornamented with one or more of the lovely climbing plants so profusely scattered over the

world. We should select those that have a light and graceful foliage, and produce fragrant or brilliant flowers. Roses are much used for this purpose and are very beautiful for a few weeks. The Gem of the Prairies is the handsomest variety now cultivated. It is a hybrid betwixt the Queen of the Prairie and Madame Laffay, but its flowers are far more beautiful than those of its parents, and they possess much fragrance. Baltimore Belle is an old favorite, blossoming in large clusters of nearly white flowers. Mrs. Hovey is purely white.

Wistarias are much cultivated on account of their rapid growth and delicately cut foliage, which is covered with pendant racemes of light blue or pure white flowers. The Chinese species grow more rampant than the American, and are not as desirable in some situations on that account. Both Roses and Wistarias are such strong growers, that they are not as suitable for porches as some other vines, but are preferable for training up on pillars and twining about the cornices of piazzas, or over arbors. The Japanese Honeysuckles, which have been imported in these few last years, are very fragrant and their foliage is evergreen in some localities. The variegated leaved varieties are very beautiful for porches or lattice work; they grow rapidly and their stems are wiry; the foliage is beautifully netted with gold; and the flowers are white and rarely fragrant. The *Lonicera halliana* is one of the best species; its flowers are white, but change to a golden yellow, and are very odorous. The Dutch Monthly Honeysuckle blooms nearly all summer, if planted in a moist, shady situation, but in hot, dry soil, it is apt to lose its leaves and become mildewed. The Trumpet Honeysuckles are well known and always beautiful.

Among the importations of the few past years from Japan, we find a beautiful vine, *Akebia quinata*, with five-lobed leaves, and very peculiarly shaped chocolate purple flowers which bloom in May and June. The foliage is tough and leathery, and hangs on the branches nearly all the winter. It is admirably adapted to light, latticed porches.

The different species of the Clematis are very lovely for ornamenting porches or verandas. There are two or three varieties which produce double flowers which belong to the species of Clematis viticella, blooming from June to September. Clematis flammula is an European variety which blooms in July, and is very fragrant. Some of the large-flowered varieties are very lovely, but are not hardy enough to bear our New England winters without being laid down and covered with evergreen boughs or straw. Clematis florida and Clematis lanuginosa are among these varieties.

Within the past ten years some very beautiful hybrids have been raised by the English florists. Among these are Clematis Jack-

manni, with large, deep-colored violet flowers and it blooms profusely. Clematis rubra-violacea differs from the former in the color of its flowers, which are shaded with a reddish violet tint. The Golden Bignonia is not commonly cultivated, but is a very choice plant in the Middle States. It is nearly evergreen and supports itself by tendrils. The Pipe vine, *Aristolochia siphia* makes a large growth in one season, and will cover a great extent of trellis. The peculiar shape of its flowers gives it the name of Dutchman's Pipe.

The Ivies are well known to all our readers, and there is a native species called the Five-fingered Ivy, which is very pretty, especially in the autumn when its leaves are brilliantly tinged with crimson.

Our native grape vines make a delightful shade over kitchen or dining-room piazzas. Five or six years ago we planted the seed of a delicious Hamburg grape. It germinated, grew vigorously, and we flattered ourselves that we had obtained a new variety which might be of some value. But no; when it fruited we were possessed of the commonest grape of the wild woods—the little, sour, bluish purple, “fox” grape. “Cut it down,” was the general exclamation of the household. “Why should it cumber the ground?”

But we thought best to save it as a shade for a kitchen piazza, and as we write we gaze through its leafy depths with great satisfaction. No bug touches it; its broad leaves cool the air and keep off the sun, and when it is in bloom it perfumes the house with its delicious fragrance, but its fruit is of no account. Still it does its work, fulfils its mission, and we are content with it.

Unless we pay some care and attention to our climbing vines their beauty is greatly impaired. It gives them a dishevelled, slovenly appearance to grow without training and pruning. The long branches should be carefully nailed up, or entwined around the lattice work or twisted about strings. The side shoots should be confined with bits of leather and nails.

Morning Glories, common as they are, are very beautiful in our eyes. We love them for old associations, for childish recollections. They grow and bloom without care or attention, and in the early morning are indeed a glory. Their clinging stems are entwined in a marvellous entanglement. No hand can untwist them. They wreath the kitchen and dairy with perfect beauty. Let us all plant them and love them.

S. O. J.

CURIOUS INSTINCTS OF THE BEE.

Honey bees are governed by instinct and not by art. They never deviate from the course they were created in. The first comb they ever built was as perfect as at the present day; no art has improved the shape or size. One bee lays all the eggs, while the

others raise the young and protect them; each bee does its part of the labor in gathering in the stores and nursing the young; and I have noticed for some years past their mode of gathering pollen or bee bread. It is this:—When a bee goes out after food, it alights on some kind of flower and gathers a part of its load; then goes to another of the same kind, and perhaps a third, to obtain a load. Another bee goes out and if it alights on another kind of flower it keeps to that kind till it gets a load. But how is this known? You go to the hive and watch them as they come in; some have yellow pollen on their legs; others have light color; others have dark; but no bee has two colors on his legs. If you see any you will see more than I have, for I never did; and I have supposed that they stored it in different cells for a change of food. The other day in overhauling a hive, I broke out a new piece of comb and found the different colors in different cells, which confirmed my belief; for I suppose they like a change of food as well as humans.

Another curiosity is their coming out and alighting before going off; for amongst the hundreds that I have bived I never had one swarm leave direct from the hive. Another curious thing is their rearing the males and nursing them so tenderly; and after they become useless they destroy them. But instinct has directed them to do it. Another curious thing is that, when they get to be too numerous, the mother bee should call out a part of the brood to go with her and leave the others to take care of the young. Why not call them all out to go with her? Because instinct has ordered it otherwise. Certain ones go out with her while others are coming in with stores for future use. A certain part of them don't seem to have any inclination to follow the mother bee, nor do they mourn the loss, for another is provided.

How wisely the Creator has arranged every part and movement! It is curious, too, how the eggs in the drone cells are all drones, and those in the worker cells are all workers. We would suppose they would get mixed up like hen's eggs. Again, when they want a queen why not make a mistake sometimes and take a drone egg? And also by feeding a certain kind of food, make a queen instead of a worker. Again, the queen before she is hatched is head downwards, which would seem to be unnatural; but the All-wise has made every part perfect.—*A. Wilson, in Rural New Yorker.*

HARD AND SOFT WATER.

Dr. Letheby, at a recent meeting of the medical officers of health of Great Britain, took occasion to renew his statement, already referred to in our pages, of the superiority, in a sanitary point of view, of a hard-water supply to towns over that of soft water.

Basing his arguments first upon physiological considerations, he maintained that the earthy matters in the hard waters were essential for the construction of the osseous tissues, and that they supplied much of the calcareous salts necessary for the nutrition of the frame, and that, by repudiating their use, we should be throwing away one provision of nature for this purpose. No one could say that a hard water was not far more agreeable to drink than a soft water. He maintained, in the second place, that the finest specimens of the English race were to be found in regions where the waters were hard, from flowing out of, or over, calcareous strata. The same was the case with cattle and horses; witness those reared in such counties as Durham and Leicester, and the horses of Flanders, while the Shetlands only produced a race of ponies. But his principal argument was that on classifying the towns of England, so far as their water supply was known, according to the degrees of hardness of the waters: the average of the death rate was least in those towns supplied with hard water, and increased as the waters became softer and softer, until it was highest in those where the water supplied was most soft. These statements, however, were met with much vigor by several speakers, among the most eminent of whom was Mr. Wanklyn, who endeavored to show that the deductions of Dr. Letheby were based upon incorrect premises, and that the case was very far from being proved.—*Ag. Department Report.*

FOREIGN WOOL.—According to the Circular of Geo. W. Bond & Co., of Boston, there has been imported into the United States during the past six months ending June 30th, 16,754,215 pounds of foreign wool. Of this amount, five millions have come from England, five millions from Buenos Ayres, three and a half millions from the Cape of Good Hope, a million and two-tenths from Turkey, and the balance from France, Brazil, and sundry other places. The importations are the largest that have ever been made, exceeding by about a quarter of a million pounds the importations for the corresponding period of 1863, which was, up to that time, the largest ever made, being 16,486,176 pounds. Last year, 1870, the importations for the six months, were only 6,951,516 pounds. The Circular says: "The demand for army clothing in Europe completely used up the surplus stock of coarse wools, and the world over they are scarce and high. We never remember such a dearth of them in this country as at present."—*Michigan Farmer.*

DWARF RAGWEED.—At a late meeting of the Academy of Natural Sciences of Philadelphia, Mr. Thomas Meehan exhibited a small plant of the common ragweed, *Ambrosia artemisiifolia*.

misiaefolia, which had grown in a pot in his hot-house. The plant, little more than an inch in height, was already provided with fertile flowers and also bubbles. He remarked that it was a common impression that when land was put down in grass the ragweed disappeared, but that after an unlimited number of years, when the ground was broken up, the weed reappeared, as supposed from the development of seeds which had long remained in a dormant condition. If such pigmy plants as the one exhibited can perfect seeds, it is evident that a multitude of them might perpetuate themselves among the grass unnoticed from year to year, until under favorable circumstances a crop is produced, which becomes conspicuous from their size. Thus their occurrence may be explained without the necessity of an indefinite extent of vitality.—*Ag. Department Report.*

EXTRACTS AND REPLIES.

MAKING HAY.

I wish you to inform me the best way to get my hay. Shall I cut it after the dew is off, and get it in the same day, or cock it up and get it in the next day, provided it is fair? Please inform a constant reader of your paper.

CUTTING OFF THE TAILS OF COWS.

I have two heifers, one two years old, the other three years. The two-year-old makes four pounds butter per week; the three-year-old, five pounds per week. They have been fed on good hay and grass, and no other feed. One of my neighbors tells me if I cut off their tails they will do better. How much shall I cut off? They are just as they were made. The flies are now beginning to trouble them, and my man says their tails must be cut off, as they swing round in his face when milking.

I. E. M.

Ashland, Mass., July, 1871.

REMARKS.—This and one or two other papers were mislaid, or would have been attended to at an earlier day. We think the practice of cutting grass in the morning, drying it in the sun three or four hours, then cocking and let it stand over night, is a good one. If fair the next day, *shake it out*,—not merely turn it over,—and get it in at noon or immediately after.

You have some very promising heifers, and are so, probably, because they have been humanely treated. As to their tails, the first inquiry we would suggest is, "What were their tails made for?" The reply will undoubtedly occur to you. First because that caudal appendage adds greatly to the beauty of the animal,—as the last touches of light and shade finish off and give grace and strength to a beautiful picture. The second reason would be that the animal should have the power of driving off insects that annoy it, sometimes puncturing the skin to such a painful extent as to drive the poor beast to madness! Would you deprive your pet heifers of this power? Tie "*your man's*" hands behind him with an iron-grip, and place him on his back with his face in the sun for

a couple of hours, where the flies congregate, and when he comes out of it, ask him if *he* would have the tails of the heifers cut off?

We have seen a gad-fly, (*Estrus bovis*), attack a cow in order to pierce the skin and deposit its eggs. In a moment she would seem beyond all control, and her extreme terror and agitation would seize the whole herd. She would run and bellow to some distant part of the pasture, or into the water if any were near. "Such is the dread and apprehension in the cattle, for this fly," says Mr. Clarke, "that I have seen one of them meet the herd, when almost driven home, and turn them back, regardless of the stones, sticks and noise of the drivers; nor could they be stopped till they reached their accustomed retreat in the water." Should you like to see one of your handsome heifers, with a *gad-fly* after her, and only a stump of a tail to beat him off with? No, we trust not,—humanity for bids it.

Milk the cows in the barn, when it is a little dark, or tie the tail to the leg while milking, if nothing better can be done, but do not mutilate the poor animal, and deprive her of the power of protecting herself against the pinching and blood-seeking insects that persecute her.

HARD LOOK FOR FARMERS—CROPS IN MAINE.

We are having rather hard times in this part of the country about this time. Last summer and fall it was very dry, and no grass was left on the ground last fall. The past spring and first part of the summer it was very dry, and the hay crop must have been quite short at the best. And now the grasshoppers, like the locusts in oriental countries, are sweeping all before them. We have never seen anything like it before. Our grass is trimmed of all, or about all, of its leaves, and, in many places, of its heads. Our grains have been served in the same manner in many places, leaving nothing but the bare straws for us. Many have cut all their grain before ripe for fodder or have turned their stock into it to get a part before the hoppers shall get the whole, and others will be obliged to do the same. As to hay, we shall get about one-third of a crop in this section, on an average. Men who used to cut about forty tons of hay will cut this year some ten or twelve tons, such as it is, and our grain is nowhere. Our pastures are all eaten and dried up.

South Sangerille, Me., July 26, 1871.

REMARKS.—A private letter from Vermont is equally gloomy. The writer says "farmers in this section wear a sad countenance. Taxes are enormously high, and so is labor; hay crop about one-half; pastures so dry that the grasshoppers suffer; the reports of stock and produce markets are really awful; too few of us have sheep to be cheered by the advance in wool; and those who owe for farms and stock recently purchased are in a sad condition."

CANKER WORMS.—DUTCH COWS.

I am a mechanic, and on a very small scale, a farmer also, cutting hay enough to winter a horse and a cow. I have a good young orchard, and one-half of my trees blossomed full this year. I can say the same of but few orchards in this

vicinity, for there was a very small proportion of the trees that had any blossoms. I have discovered by examining my trees that the canker worm has commenced its work; though I had not seen any in this section before. Is there anything I can do to destroy these pests?

I have been much interested the past winter and spring in reading in the *FARMER* the various communications on stock, and on the different methods of making butter and cheese, from the different breeders of cattle and dairymen, and have come to the conclusion that there are some good cows from all breeds. Some farmers have a preference for one breed and some for another; but which particular breed is best for our farmers to raise is yet open to discussion. More has been said recently about the Jerseys, perhaps, than any others, but I wish to speak a word for the *Dutch*, and to compare notes with the owners of other breeds.

I have a Dutch heifer that dropped her first calf May 22, 1870, being then two years old. I raised her calf, giving it, at night, the milk the heifer gave in the morning; and, in the morning, what she gave at night. So you will see at once that I did not get all the cream from the milk, but I have got a good yearling. We made all the butter we have wanted in a family of two, and a part of the time three persons, and have butter enough now to use for six weeks.

The heifer dropped her second calf the 13th day of June, 1871. I milked her twice every day from the day she dropped her first calf until she dropped her second one, and there was no day on which she gave less than four quarts and a pint of milk, which was of a superior quality. We did not use the milk nor sell it for the last two weeks before she dropped her second calf, but in addition to raising the calf and making butter I sold twenty-five dollars worth of milk the last winter. Her feed was one quart of meal and one quart of shorts with what hay she would eat. Averaging her milk at six quarts a day, which is a low estimate, she gave over twenty-three hundred quarts of milk.

T.

Mount Vernon, N. H., June 16, 1871.

CANKER WORMS.

We have a fine orchard of one hundred trees, and this season the canker worms have commenced their work in this region. They have not done much damage yet, but we expect them in countless millions next year. Thinking the *FARMER* the best authority I could refer to, I would inquire for the best and cheapest way to protect our trees.

I am only twelve years old, but am bound to be a farmer, and want to raise apples.

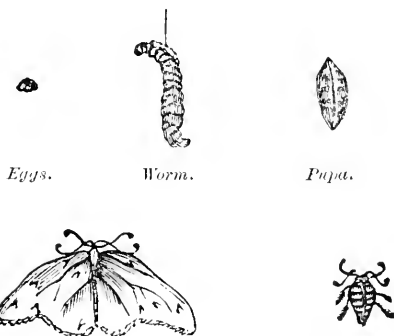
JOHN H. ELKINS.

Kingston, N. H., Aug., 1871.

REMARKS.—You cannot destroy the canker worms that have done their work this season. They probably disappeared soon after the date of the first letter. After a pretty hard frost this fall, say in October, a few of them may appear, and in the spring a whole army of them, but in a different form from that in which they ate the leaves and spun down from the trees; and the female, especially, will appear in a different form from that represented in most of our books on fruit, including Mr. Thomas' "American Fruit Culturist" and the recently published "Apple Culturist" by that excessively practical writer Sereno Edwards Todd; both of which books represent the female of the canker worm with short wings, a mistake which both authors probably copied from the first edition of Mr. Cole's Fruit Book. Mr. Cole was probably

led into the error by copying an illustration in a foreign work, of a nearly related insect; an error which he corrected in the later editions of his book.

The following are fair illustrations of the canker worm in its different stages, except that of the moth, which is not well made.



Eggs.

Worm.

Pupa.

Incorrect drawing of Male.

Female.

The male canker worm moth, of which our illustration is faulty, has four wings; but the female is wingless, as seen above, and hence is obliged to crawl up the trunk of the tree in order to lay her eggs on its branches. Consequently her ascent can be prevented by putting tar around the trunk of the tree. This is usually done by fastening with strings or otherwise, a strip of canvass or strong paper, eight to twelve inches wide, snugly around the trunk of the tree, and applying the tar to this. Of late, cheap printer's ink has been much used instead of tar, as the latter does not dry as soon as the tar does. By the faithful use of this preventive many have preserved their trees in the vicinity of Boston,—among others, Mr. Joseph Breck, of Brighton, whose orchard is in a neighborhood badly infested by the canker worm.

Another preventive which can be made by any farmer or farmer's boy, with a little lumber, and some gutter stuff, oil, &c., consists of board boxes around the trees. The boards for the boxes should be about ten inches wide, and of a length corresponding with size of the tree,—four strips to a tree. Leave about three inches space between the trunk and box, which should be filled with tan or earth and tamped in solid, after pressing the lower edges of the box into the ground. About three inches from the top edge of the box, and on the outside, a wooden gutter, fitted neatly at the corners, is nailed on, and the corners made tight with roofing cement. Then four strips of clapboard are nailed on in such a manner as to form a roof over the gutter. The gutter is then filled with coal or bug oil, over which the grub cannot pass. Leaves, &c., may be blown in upon the oil, which must be removed or the creatures will make use of them for bridges. With proper attention these boxes have proved effectual, and not expensive. One man used chain pump tubing, sawed into two parts, at

small cost. The boards may be of cheap stuff; the clapboards ought to be pretty good.

We hope the foregoing will be of some use to our correspondents, and particularly to Master Elkins, whom we are especially anxious to assist in his fight with an insect that has proved itself a match for much older and more experienced persons. The receipt he sends us would be no protection against the canker worm. Nothing short of an utter impossibility will prevent the ascent of the grub.

SQUASH BORER.

I have a field of Hubbard squashes which have looked well until lately. The vines seem to dry up, and in hills where vines have not commenced to run, the stalks are eat off under the ground. Larger vines which have put out a number of leaves seem to be drying, wilting up and dying out. Can you tell me the cause and a cure? H. A. M.

Hudson, N. H., July 17, 1871.

REMARKS.—Some cultivators have had to abandon squash raising on account of this destructive insect. The first scientific description of it ever published was written for the NEW ENGLAND FARMER, (old series) by Prof. T. W. Harris, who gave it the name *Egeria cucurbita*. The grub or caterpillar, that does the mischief has sixteen legs. After devouring the inside of the vine it enters the ground, forms a cocoon of a gummy substance covered with particles of earth, changes to a crystal, and comes forth the next summer a winged insect. The moth is conspicuous for its orange-colored body, spotted with black, and its hind legs fringed with long orange-colored and black hairs. It deposits its eggs on the vines close to the roots, from the first of July to the middle of August. From these eggs the "borer" is hatched.

The only remedy we know of is to cover the stems of the squash vines with earth for some distance from the root, and as the mother moth prefers to leave her eggs near the root, she will leave those thus protected and hunt up some other person's vines and lay her eggs there.

EXPERIMENTS IN MANURING FOR CORN.

I planted a piece of corn this season, manuring a part with horse manure, and a part with chip manure which had received a little of the barnyard soakings, partly as an experiment, and partly for the want of any better manure. The first mentioned corn came up ahead of the other, with apparently stronger stalks, and retained its precedence for about three weeks, after which that manured with chip dirt shot ahead; and now at the second hoeing, the rows can be distinguished at quite a distance by the considerably larger size of the stalks, and the darker hue of their color. The corn was planted on poorish, sandy loam, and manured in the hill. I will give you the results in the fall if they are worth it. I have been told by several this spring that chip dirt or even green muck is better for corn than horse or cow manure, and begin to believe it myself.

ASHES IN THE HILL.

Did you ever know of ashes, applied in the hill, killing corn? I applied about a pint to the hill on a piece a short time since, and a few rows which

did not get hoed for several days show many stalks entirely rotted off close to the ground. Perhaps I applied too much ashes.

SOIL FOR ONIONS.

Do onions require a mellow or a hard soil? I have been told to put them on a hard soil, but am having fair success on a deep mellow soil, manured with hen-manure, ashes and soot, with a sprinkling of brine.

CUT WORMS.

The common white grub worms are doing much damage by eating off the corn just below the ground hereabouts. What will stop them, or is there no relief to be had? W. H. W.

Barnston, Que., June 31, 1871.

REMARKS.—Send us the results of your experiments in manuring for corn.

Clear wood ashes would be likely to injure the tender corn shoots, applied as liberally as you state; especially if leached by rain so as to form a pretty strong lye at one time.

Persons engaged extensively in the culture of onions, state that they do better on a deep soil, but one that is a little compact on the surface.

We have never known any substance applied to the soil that would destroy the white grub or cut worm. Much mischief may be prevented by opening a hill where one stalk has been cut down, and hauling out the depredator. He may be found readily in most cases.

SYSTEM AND PLAN.

Jones has a place for everything,
And everything in place;
A snug tool-house—a handy building,
That fills its proper space.
Smith's tools are lying all a-spread,
In every way that's loose;
You might pasture an hundred head
In his "great wagon-house."

Jones aims at common sense practice
In everything he does;
Smith runs blindly—goes by guess,
That source of many woes,
Jones imitates the prosperous man
In every noble trait,
Smith follows "old ruts," with no plan,
At "a poor dying rate."

Maine, 1871.

J. W. L.

WHITE SPECKS IN BUTTER.

White specks in butter should be avoided, as they injure the keeping and also the sale of butter. Mrs. A. M. B. in No. 23, though not a farmer's wife (she ought to be,) mentions a new cream strainer, &c. When the specks are in the cream, and she wishes to crush them, let her try the old "cheese strainer" and she will find a good cream strainer unpatented. But I believe more in prevention than cure. Therefore we would find the cause, then apply the remedy. First, in the spring the air is very drying, and a current of air blowing on the surface of the cream in the milk room, as it is rising in the pans, dries it in particles so hard that churning fails to break them up. Another cause. Warming the milk room by a stove, the heat rising to the upper part of the room, heats the jars on the top shelves so as to partially melt the cream on top, and makes it so hard it breaks into lumps or specks. After rising the butter, if specks remain, work the butter when it is so cold and hard you can hardly do it with the butter worker, and you will break many of them. If many specks remain in the buttermilk, strain them out with a sieve,

and then strain them through the seive and they will come through nearly charned butter. T. B. Addison County, Vt., July, 1871.

SCARCITY OF FODDER—SOWING CLOVER.

There is more stock in this town than can be fed, with every means used to furnish substitutes for hay. If we are obliged to dispose of only the worthless stock, there will be little loss.

How late in the season can red clover be sown and have it live through the winter? Many fields must be re-seeded before they will yield much hay. We intend to plough and re-seed as fast as we can manure the land. F. F. Fisk.

East Yard, N. H., 1871.

REMARKS.—There is some difference of opinion among good farmers with regard to the time of sowing clover seed. This is not singular, as there is a difference on nearly every item of farm labor.

The objection to sowing in August or September, is, that the new roots do not get sufficient attachment in the soil, and strength to withstand the cold of winter. This would depend very much upon two things,—the kind of soil, and the character of the winter. If sown upon land that is drained, or a loam that is porous, or upon a gentle slope where the water would not stand upon the surface, we think clover would establish itself so as to resist the cold of any ordinary winter weather. If quite wet, the roots will not penetrate the soil much, and are likely to be thrown out by frost, and the plants perish.

So on a field that is generally favorable, if there are low places where the water stands, it will freeze over, and in the process of freezing and thawing the clover will be killed out. This is quite often the case, not only with clover, but with winter wheat. Where the soil, then, is in either of these conditions, it would be the best way to sow clover seed about the first of April. In an emergency, however, like the present, we should not hesitate to sow clover at any time during the month of August.

A writer in the *Western Farmer* states that, during a practice of sixteen years, he has sown clover seed in mid-winter on the snow, in the spring, in the summer and in the fall, and has had the seed fail of catching in all the seasons, except when sown in the month of August. His practice is to sow in the month of August, and put no crop with the seed, except it is for protection. When sown after a crop of oats, enough oats will come up from the stubble for protection.

Since it has been a practice to hoe level in corn-fields we have sometimes laid them to grass with excellent results while the corn was standing. There are some advantages in this process. One is that, unless the drought is very severe, the surface of the ground in the corn-field will be moist; and this is indispensable to a quick starting and growth of the seed.

A second is, that the standing corn is a protection to the young grass, which is very tender in its early growth, and is often killed by the hot sun when standing alone.

A third and important advantage is, that few or no weeds will be in the way, as it is presumed that the corn has been kept clean. The grasses, and the clover, having been well rooted in the fall,—in the spring they will take the lead of weeds and foul grasses, and thus kill out a variety of plants that are not wanted. If the land is kept in good condition afterwards, by top-dressing, it will become thoroughly stocked with the rich grasses which are desired.

We agree with you, that most of our grass fields must be re-seeded. The nearly two-year's drought and the uncovered surface of the fields of last winter, have so far destroyed the roots of the timothy and red top, as to make this re-seeding a positive necessity.

The rains of late July and early August are getting the soil into a favorable condition for laying to grass, so that it will be well to re-stock as much as can be well done.

CHESS, OR CHEAT.

Will you please tell me the name of the grass enclosed? The only place we find it on the farm is where grass seed was sown last year.

East Yard, N. H., 1871. F. F. Fisk.

REMARKS.—Mr. Flint, author of a work on "Grasses and Forage Plants," to whom we submitted your specimen says it is chess. Besides being a troublesome weed, especially in grain fields, it is of little or no value as fodder. Yet a few years ago the seed was sold as Willard's Bromus, at monstrous prices, and was advertised with the commendation of a committee of an agricultural society and with the names of distinguished friends of agriculture. A quantity was sent to the State Farm of Massachusetts, where Mr. Flint discovered its true character. He found by actual experiment that cattle which were fed swale hay and bromus or chess at the same time ate the swale hay first.

LAMOILLE VALLEY SCENERY—GARDEN STUFF.

I have been reading Mr. Brown's letter "Among the Farmers and Mountains." I am located in the Lamoille Valley, in fair view of Mt. Mansfield, and if he will visit this section on his next trip, I will guide him to any place of interest he may wish. Although he finds us Vermenters without gardens, I will treat him to potatoes, sweet corn, beans, peas, onions, carrots, beets, cabbage, turnip, lettuce, cucumbers, melons and oyster plants, and if his health is poor, I can offer him sage, saffron, wormwood, &c., from my garden; yet mine is no better than those of other farmers in this town.

BEES AND HONEY.

One thing which farmers neglect is the honey bee. It is really too bad, while nature has furnished so many plants and flowers for the secretion of honey, that the people so much neglect to care for and encourage honey bees, which alone are created to collect it for the use of man. The reason usually assigned for not keeping them is that they will sting. Now this is all wrong, for the bee, if rightly cared for, is just as harmless as any of our domestics, though if misused they will resent it even at the risk of their lives. Mr. Brown

couples bees and dust together in his letter, though I can't see why.

I should like to learn more about N. B. Hatch and his bees. It is rather an unsatisfactory description of a hive to say "It is of a plain square form, a quarter higher than it is wide," and honey sold for "about" \$3000 is rather indefinite. Is that for this year or since he commenced the business?

I have eleven stocks of the black bees, and have got from them this season 180 boxes of honey, which will weigh from four to five pounds each. I use the Langstroth and the Colton hive, but prefer the former.

My bees allow me to do as I choose with them. I use no bee dress of any kind, yet I have turned the hives bottom side up and taken the honey from the body of the hive several times this season.

I am no hand to write, but if Mr. Brown will come to my place, I will lead him into the mysteries of the honey bee so he can describe a hive better than to say it is of a "a square form, a quarter higher than it is wide," and he will find as many copies of the FARMER in our town as in any place of its size, I think.

JULIUS G. MORSE.

Cambridge, Vt., Aug., 1871.

REMARKS.—Thank you, sir, most kindly. Your invitation is a sincere and hearty one, we have no doubt, and your criticisms are of the same stamp. Just what we like. In a ramble with you among the fields, bees and gardens, we should find instruction, and that is our aim whenever we go abroad.

We hope your letter will stir up farmers all over New England to cultivate gardens and bees, and, what is of still more importance, to cultivate a greater interest in each other by interchanging visits and communications in relation to their business.

But in order to make our remarks clear to our friend, we will say that the little "captions" in the letter which he has so kindly noticed, are designed merely to denote the topics which follow. English writers criticise our people quite sharply for making these divisions in books or in public letters or speeches. We like them. One reader may care little about "The Town of Whitefield," or "The Prime Crops of the Region," whose attention would be arrested at once by an account of bees. Portions of these letters are sometimes written in the cars, on the seat of the wagon, or in the tavern where a brisk conversation is going on.

We have reviewed the phraseology in our letter in relation to the *form of the hive*, and fail to see how it could be better. We were aware that no greater difference of opinion exists on any subject than that in regard to the size and form of bee hives, and in accordance with these opinions they are made and sold at a cost of fifty cents to ten dollars each. Our idea was, to state in the briefest manner, how any one could imitate the hives of this successful bee master; namely, "in a plain, square form, a quarter higher than they are wide, and boxes placed in the upper part." That is, if the hive were one foot square, across it, it should be one and a quarter foot or fifteen inches high; that is, as we understood him. We should think a better form would be one foot square in the clear,

and the boxes above, five or six inches high, which would make the whole hive about one foot and eight inches high.

We hope the letter of our correspondent will cause more attention to be given to the culture of the honey bee. His crop of between 700 and 800 pounds from eleven swarms already taken up this summer, shows a very profitable business in that direction. The cash received for honey by Mr. Hatch was \$3000 during his residence of some ten or twelve years on the farm. We shall certainly improve the first opportunity to visit the beautiful valley of the *Lamoille*, eat honey and garden sauce with our correspondent, and learn whatever we can that relates to farming. The "sage, saffron and wormwood" we hope to have no occasion to use.

WHAT AILS THE FRUIT TREES?

A great many limbs of pear trees are dying. I did not observe it until since the fruit set, but now it is common in this county, to see limbs with the fruit shrivelled, and the leaves turning black. I have a fine dwarf tree in my garden that has borne fruit three or four years. It bears moderately this year, but a few days ago I sawed off one limb an inch in diameter, that was dead, besides some smaller branches. A standard tree grafted with the same variety, *Flemish Beauty*, is healthy yet, also one native tree, but in many places the natural tree is dying as much as any.

Many young apple trees are affected in a similar manner. The young twigs dry up, turn red, and die. Can any one tell the cause?

The season is dry, though not so dry as last year.

The crop of apples will be pretty good. Small fruit scarce. Grapes are doing very well. I have some Concord vines that are well loaded.

Grain is good. Rye mostly cut. Barley harvest has commenced,—a great deal of it raised in this county. Peas will be good. Hay crop light, but mostly secured, and in prime order. Corn looks well.

The potato bug has not reached us, though many are frightened, and, of course, find bugs in abundance on their vines, but the true "*Colorado*" has not been seen here, I think.

The past month has been cool, especially the nights.

GRANITE.

Bloomfield, Ont., 7th Mo. 27, 1871.

REMARKS.—Some pear trees in this region are affected as described above. This, however, takes place every year in some degree. Perhaps some of our readers have given special attention to the matter, and can throw light upon it.

Cutting off the dead branches as fast as they show signs of disease is generally practiced.

RED WATER IN A COW.

A neighbor has a cow that is troubled with what he calls red water. The cow is growing poor and is almost dry of her milk. He has done all he can for her, but she still grows worse. He wishes to know if anything can be done for her, and what.

HENRY MILLER.

Westfield, Vt., Aug. 8, 1871.

REMARKS.—The diseases of our domestic stock are so similar to those to which our family physicians devote their time and attention, that we must

repeat our advice to consult them in cases of severe ailment of farm stock. No doctor would like to prescribe for a human being on such a statement of the case as the above. He would wish to see his patient and make up his mind as to the seat or cause of the trouble. Dr. Dadd says Red Water is a symptom of some derangement in the system, and not a disease of itself. If the kidneys do not perform their part in the animal economy, the result may be red water; or if the skin becomes obstructed, then the excrementitious matter which should pass off through its pores must find some other outlet, and may color the urine. Any derangement in the digestive apparatus may produce the same result. In short, many forms of acute disease are accompanied by high-colored urine. If the bowels are constipated give medicine or food to open them. Dr. D. recommends a tablespoonful of Golden Seal, in two quarts of Thoroughwort tea. A correspondent of the FARMER recommended a few years since corn-cob broth and White pine tea for red water. A Dover, Me., correspondent relates an instance in which vinegar proved highly beneficial. He says he had examined after death several cows thus troubled and found the bladder lined with what appeared to be warts. One tablespoonful of copperas and two of saltpetre, given once a day for five days, was also recommended by a Brookfield, Vt., correspondent.

BEE KEEPING.—UNFORTUNATE INVESTMENT IN ITALIANS.

I have from fifty to sixty swarms of bees, from which I have usually had some fifteen to twenty-five swarms come off in a year, and from 800 to 1200 pounds of honey. This year they have not swarmed at all, and if I get 200 pounds of surplus honey I shall do better than I expect. And to add to my discouragement, the bee moth has got into my apiary and I fear will destroy all my bees.

These moths were introduced into my apiary by sending to West Gorham, Maine, to one of those beings in the human form that advertises Italian bees and queens for sale. As we had seen them highly recommended by able men three of us, neighbors, namely, Charles Labaree, Joseph Weymouth and myself, sent sixty dollars for three swarms of Italian bees, which cost us when we got them home twenty-five dollars per swarm. Now for the result. Mr. Weymouth's swarm died the first winter; Mr. Labaree's died the next summer, and mine lived two winters. They never made any surplus honey, and did not swarm at all. All the advantage I derived from the longer life of my swarm was the breeding of more bee moths than those that died sooner. The worst feature in the transaction was the fact that the "Italians" received were nothing but mongrels. L.

South Sangerville, Me., 1871.

CABBAGE WORM REMEDY.—BORERS IN FRUIT TREES.

I send you a sure and cheap remedy for this cabbage pest, and one that is at hand in nearly every family. To one gallon of beef, ham or pork brine, that is strong enough to preserve meat in summer, add one gallon of water, and with a small broom dipped in the same and struck across a stick, the plant is readily saturated in every part. I tried it on fifty heads last September, one-half of which were nearly eaten up by the worms, and in twenty-

four hours every worm was defunct, and not one appeared again during the season. Those that were only eaten on the outer leaves, grew thrifty and headed finely, and had to be partially lifted out of the earth to prevent splitting. Salt—"that makes the cabbage head"—is as congenial to this plant as it is to asparagus.

Some of my neighbors, through fear, have made the brine too weak, and failed to kill the worms. The fear is vain. Be sure to have the brine strong enough to do the work. I have tried it this year with the same good result. It has in no way injured or even discolored the plants. To be retained well on the plant, it should be applied at noon in a clear day.

To those who have no brine, I would suggest the adding one quart of coarse salt to two gallons of water, and apply as directed. If this fails to exterminate the vermin for want of the mucous nature of meat brine, then add to the aforesaid, one gill of soft soap and mix it well before applying it. By this process one bushel of salt will save an acre of cabbages by one day's labor.

Do not make it too weak and then condemn the remedy; as has been the case with some who used only soap-suds instead of soft soap, and then condemned my *infallible* specific to expel all borers from my fruit trees, which I recommended some years ago in your highly useful journal.

Shoreham, Vt., Aug., 1871. R. HAVEN.

TWO WAYS OF KEEPING STOCK.

Jones keeps his farm well stocked with good,

Nice-looking, well tried strains;

Says "a good farmer never should

Sell off his hay and grains."

Smith thinks it is less work and fret,

To sell hay, corn and shorts,

And buy this grand Super-fast-rate,"

And feed out straw and oats.

Jones raises heavy porkers, too,

No matter what's the breed;

He says, whatever else is true,

"The main point is the feed."

Smith each spring "turns his'n out to grass"—

The yard is made of rails,—

And to prevent their easy pass

Ties bow-knots in their tails.

Maine, Aug., 1871. J. W. L.

CORN WITH CARROTS AND BEETS.

When I planted my carrots and sugar beets, I dropped corn in the rows, say two feet apart, so that I could see the rows of carrots and beets to cultivate them before the carrots were up. Now I am cutting my corn, and feeding it to my cows with good results. My beets and carrots are looking well, and apparently are not injured in the least by the corn. L. H. Dow.

Cornish, N. H., July 26, 1871.

REMARKS.—As suggestive as brief. The corn without the chaff. A model statement.

TO KILL BURDOCKS AND CURRANT WORMS.

Cut off the stock close to the ground, and with your knife dig out a cavity and fill with fine salt. For the worms, take one pound of copperas and dissolve it in seven gallons of water. Is there any way to kill hardbacks? So much from a new hand who would like the proposed two pages of agricultural matter. A. B. C.

Tilton, N. H., July 22, 1871.

EFFECTS OF SUPERPHOSPHATES ON SUCCESSIVE CROPS.

I have been experimenting somewhat this season with seeds, manures, fertilizers, &c., but must wait till harvesting before I can fully decide the

results. As this is the first year of using phosphate I would like to inquire of those who have used Bradley's for several years, what effect it has upon the soil or upon the crops, in subsequent years.

JOSIAH MARSTON.

East Medway, Mass., Aug. 1871.

For the New England Farmer.

HARVESTING CORN.

I wish to thank W. H. Y. of Connecticut, for his excellent article on "What is the best method of harvesting corn," published in the *FARMER* June 24th. He is right, according to my experience. Though I have never made such careful experiments as he has given, yet I believe every word of his statements, having tried the method of cutting up while the corn was quite green, and setting it up in the field. I should like to have him give his mode of operations, so that if it is better than my own way, I can try it.

Here is my way of doing it, and a description of some of the tools to work with. We have what is called a horse, made as follows: take a light stick of timber, eleven feet long, two and one-half inches square, or, if round, three inches at the large end, and two inches at the other. Three and one-half feet from the largest end put in two legs two and one-half feet long. These must stand bracing each other, their feet about eighteen inches apart, and stand perpendicular when the small end of the horse is on the ground. Next, bore an inch hole through the neck of the horse, half way between the legs and large end so that a stick three feet long put through it will be horizontal with the surface of the ground. This stick must slip easily in the hole. Then on the top of the horse, and back of the legs, insert two small sticks about fifteen inches long, and spreading at the top to each side one foot; also insert two others similar to these, two feet behind them, these form the saddle to lay the bands into.

For bands, we use fodder corn that is of the right length, well wilted; a bundle of this is fastened into the saddle of the horse. Now two men or boys with each a good corn cutter, take their horse, set it between the rows, so that each man can cut two rows and set the corn into the corners formed by the stick in the horse's neck as evenly as possible, and slanting enough to have it stand strong; cut twenty or twenty-five hills, according to the weight of the corn, that the shocks may not be too heavy to handle when dry. Then let one man take two or three stalks of the binders and bind the shock as close to the horse's back as he can, and the other man take a band, bend over the tops of the stalks and bind tight; then one man pulls out the stick from the horse's neck, the other man takes the horse and backs it out, carries it forward, sets it in its place for another shock; the other puts in his stick, and both are ready to cut again. After a little practice, the men

will cut, set up, and bind a field of corn nearly as quick as they would cut, bind, carry out, and set up the top stalks, and do it without breaking down and wasting the corn. After standing two weeks, the corn can be husked if the fodder is wanted for immediate use, otherwise it had better stand until the cobs are somewhat dried.

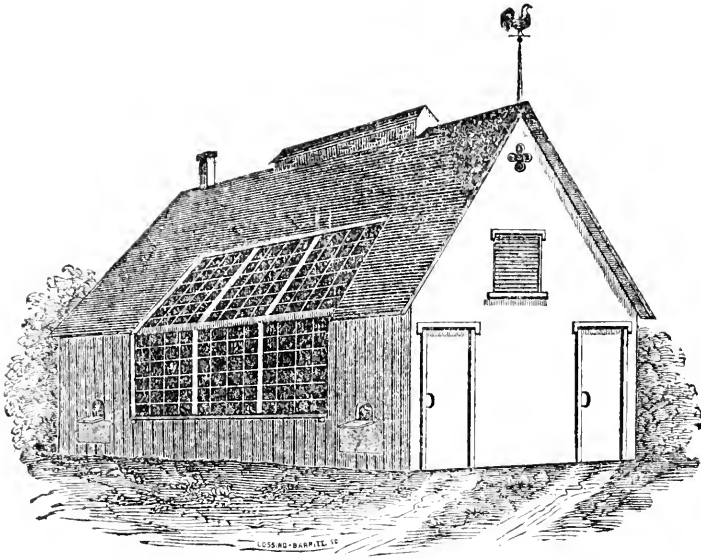
To get in the corn to husk, take a short cart, with four stakes four feet long, and a boy to load; drive between two rows of shocks, and with a fork take each shock, between the bands, and place around the cart, with the butts out. Back into the barn floor, pull out the stakes, and tip up the cart. In this way you can get in a load or two in a few minutes, if you see a shower or storm approaching.

Last year we cut and set up our corn the first and second days of September, while looking quite green, but on opening the husks the corn was found to be well glazed. Treated in this way, the fodder is as much better than when harvested by the old way, as the top stalks are better than the butts after standing through bleaching storms and frosts, as is the old practice. It is excellent for cows giving milk in the fall or spring; and if you have pumpkins or turnips growing among the corn it gives them a better chance, and W. H. Y. has proved by thorough trial, that the corn itself is better every way, and I am satisfied that it is heavier and sweeter.

C. E. KIMBALL.

Dudley, Mass., Aug., 1871.

HOW THE HORSES WERE STOPPED.—A frightful disaster was recently averted in England by the good sense and bravery of a Cornish farmer. The horses of a stage coach had become unruly, and dragged the reins from the frightened driver, when the farmer, who was inside, forced himself upon the back of the shaft-horse, and thence to the leader. By patting and caressing, he guided the terrified beasts down a steep, mountainous road, through the narrow streets of a crowded village, and finally brought them safe to a halt in the open country, after a mad drive of eight or ten miles. Commenting on the farmer's method, and the award of a medal for the act, a London paper says: "It was odd that it should have required the visit of an Ohio farmer, some years ago, to make so elementary a truth clear, but in fact Rarey gave the truth a practical application. Horses, though docile and gentle, are timid and nervous; noise and violence will only aggravate their terror if once roused; but they can be soothed if a man has the sense and temper to go about his task in the right way. Rarey was an apostle of the truest humanity, and it is only to be regretted that much of his teaching fell on so stony and ungenial soil as the coarse nature of English hinds and carmen."

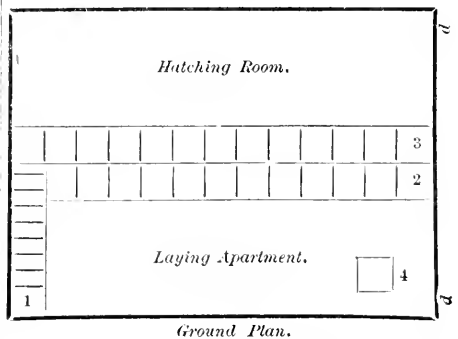


POULTRY HOUSE.

We copy these two illustrations from D. J. Browne's "American Poultry Yard." Many farmers who do not propose to build as large a house for their poultry, or who do not propose to build a separate one of any size, may find something in it which may be of use to them in fitting up a comfortable place in their barn or other out-building for the accommodation of their poultry.

"The accompanying cut represents a hen-house in perspective, 20 feet long, 12 feet wide, and 7 feet high to the eaves, with a roof of a 7-foot pitch, a chimney-top, a ventilator on the peak, 12 feet in length and 1 foot or more in height, and openings in the gable ends for the admission of fresh air. In the easterly end there are two doors, one leading into the laying apartment and loft, and the other into the hatching-room. In the same end there is also a wooden shutter or blind, which may be opened whenever necessary to let air or light into the roost. In the back, or northerly side, there is a large lattice window, three feet above the floor or ground, 4 by 12 feet, for the purpose of affording fresh air to the sitting hens. In front, or southerly side, there is a large glazed window, 4 by 12 feet, and another on the southerly side of the

roof, of a corresponding size, designed to admit light and heat of the sun in cold weather, to stimulate the laying hens. In the southerly side there are also two small apertures three feet above the ground or floor, for the ingress and egress of the fowls. These openings may be provided with sliding shutters, as well as with 'lighting boards,' inside and out, and may be guarded by sheets of tin, nailed on below them, to prevent the intrusion of rats, weasels, or skunks."



Ground Plan.

Fig. 1, represents a ladder or steps leading to the roosting place or loft; 2, nest boxes for laying; 3, nest-boxes for sitting hens; 4, a stove for warming the apartments, if desirable, when the weather is very cold. The nest boxes are three or four feet from the floor.

THE NEW MODE OF CURING HAY.

This new mode is by cutting the grass, getting it into the barn and storing it away on the same day. The process varies a little with different persons, but is mainly as follows:—

In the first place, it ought to be stated, that the grass is left until it arrives, in condition, to what is called the second bloom; that is, we suppose, when the latest of the blossoms are out. If cut earlier it is too full of juices to be easily cured by the new process. The true time would usually be from the 10th to the 15th of July.

The mowing is done in the morning, after the dew is completely off. Let it lie until about 1 o'clock, and then commence to rake and haul in, beginning where the mowing began, and so continue until that day's mowing is finished. This is stowed away in the bay, and the same process continued until the bay is filled. As it takes about twenty-four hours for fermentation to take place, the hay put on from day to day receives no injury from this cause. The top is then covered some eighteen inches thick with old, dry hay or straw. This absorbs the moisture given off by the heating process, and leaves the hay bright and sweet.

Such is the new mode of harvesting the grass crop. If it is a good one, it would save nearly or quite one-half of the labor heretofore required in securing it. It would save the time spent in cocking, in opening and shaking out the cocks, in covering them with caps, in tumbling them up for loading, and raking up the scatterings which they leave. It would save labor in tedding or turning the grass, and be far easier to load hay in windy weather, though somewhat heavier pitching on and off the wagon.

That hay has been, and still can be cured in this way, we have no doubt. At a public meeting in Lewiston, Maine, a dozen persons, well known in the community, and whose statements were received as facts, said they had practiced the process stated above with success. One of them, Capt. Taylor, of Winthrop, gave minute details of his hay-making for ten years in succession, and after all his experience, stated that grass cured by wilting only, and then stowed in large quantities in tight barns, is worth twenty-five per cent. more than grass made into hay in the old way.

Several other persons, however, stated that they had "tried the new way," and found it a failure, some to the extent of the entire loss of their hay.

We shall be glad to get reports of further experiments in the modes of curing hay; and in this connection would thank our valued correspondent in Maine for his suggestions on page 380 of the August number.

POLITICIANS IN FARMERS' FAIRS.—In an article written some years ago by Judge Potter, and recently republished in the *Mirror and Farmer*, it is claimed that the first fair ever held in this country was at Londonderry, N. H., one hundred and twenty-nine years ago; that in 1719 the first Irish potatoes ever raised in America grew in this town, and the first exhibition of them was made in 1722, and that the first premium in America for Merino sheep was awarded by the "Derry Fair."

The writer closes by a reference to more modern fairs, and says:—

After 1807 and 1808 fairs began to be held in other sections of the country, but the difficulties with England and the war of 1812, 1813 and 1814 checked their frequency and usefulness. After the war had closed, greater attention was paid to agriculture, and societies were formed in most of the counties in the State, and were continued for some years with decided benefit to all interests of the State. A "Board of Agriculture" was established, and the results of their labors were given to the public through the *Agricultural Repository*. But the usefulness of these societies was of short duration. Various causes operated to make them unpopular, the principal of which was that they became identified with the party politics of the day, through the ill-advised scheming of politicians.

FARMERS' CLUBS.—A member of a Farmers' Club in Evanston, Ill., which, in addition to the usual exercises of such associations, has an agent who contracts directly with manufacturers for such implements and tools as the members of the society need, and who also advises and assists in marketing grain and produce, writes to the *Prairie Farmer* that already more has been saved in this way in a single season than it will cost to belong to the club a life time, and concludes by saying:—

It seems strange that farmers all over the country will not take the matter in hand and deal mutually together, and work for each others benefit. Much can be saved every year in buying implements in this way, or in selling grain or other produce. Besides, there can be much valuable information gained by these friendly talks about how we farm, and how we cug it to farm. Farmers, it is greatly to your interest to organize Clubs for your mutual benefit. Try it and see for yourselves.

BUTTER MAKING.—The editor of the St. Albans *Messenger* after giving some account of the farm of W. H. McAllister, of West Enosburg, Vt., who keeps about forty cows, says:—

He churns once in two days, works the butter very little on taking out of the churn, puts a layer

of the same in a tub, then one of salt, and so on until completed. Lets it stand two days, giving the salt an opportunity to penetrate the butter, then works and packs. By this method less working is found to be necessary, and the texture of the butter is not injured. Uses the Onondaga salt, three pounds to a tub of butter, and keeps in a nice, cool room in the cellar, constructed for the purpose.

For the New England Farmer.

ON ADVERTISING FARMS FOR SALE.

It has been my lot to be called on, to look at farms advertised for sale. A friend or acquaintance desiring to purchase would see an advertisement in the newspapers describing a farm and giving price, terms of payment, &c. So far as the description and terms were concerned, the place would appear to be exactly what he wanted. When visited, all the fancied desirableness of the property could not be found.

No man who understands the value of farm property for *farming purposes* is going to be deceived by any gilding an advertisement may place upon it. He will look at the actual condition of things, not at the remote capacity for improvements it may possess for him to develop. He knows that time and money are both required to bring up the productive capacity of lands. Every one who has had practical experience in farming, is aware that it is very much easier to run down and exhaust the productive capacity of soil than to increase it. When the trouble and cost of bringing up the fertility of a farm is considered, very few will purchase one that requires this to be done at the outset of his occupation of it, especially if he is dependent on his farming for his subsistence, as most farmers are.

It is the interest of every one advertising to state the *exact facts*, so far as it can be done. If a person desirous of purchasing is led to infer that a property advertised is more valuable than the actual condition will warrant when examined, the disappointment will frequently disgust him to such an extent as in a measure to blind him to its true value.

An experience of mine the past spring will serve to illustrate the truth of this statement. An advertisement set forth a farm for sale at a great sacrifice, with easy terms of payment. The buildings were represented as good; the land early and productive, with large quantities of fruit of all kinds, and the whole enclosed with stone walls, &c. I called upon the agent who advertised the place and saw the full description as given to him by the owner, which was even more satisfactory to me than the advertisement. The agent had not known the owner previous to his coming to him to sell the property, and thought him all right. I went to examine the property, at considerable expense. When I came within sight of it I was inclined not to get out of the carriage; but as the road was too narrow for me to turn around in, I had to go to the door

yard for that purpose. Having got there and being obliged to wait somewhere for a train to bring me to the city again, I concluded to look over the place, thinking that it might possibly, like a "sing'd cat," be better than it looked.

I examined about all the lots with a spade. Found a light sandy loam, six inches in depth, on a subsoil of clear sand, suitable for a *mason's* use. Fruit of no account; walls very poor and much of them down; not a barway in condition to stop an animal on the place; cattle tied in the barn and feeding for the most part on swale hay and brewers' grain,—the latter hauled from Boston, sixteen miles away. In fact, the whole concern was miserable, and had been miserably cared for. The house appeared neglected, and looked as if it had not had a house-keeper in it for a dozen years. The locality was described as being pleasant and in a good neighborhood. The house was on a *back* road and not a neighboring one to be seen on it, though across lots and swamps. On a main road, there was one house in sight!

In all candor, I will affirm that plenty of farms can be bought any day for one-half the price asked for this one, which so far as situation and productive capacity are concerned, excel it in every particular. There is not any doubt that this place would be more likely to find a purchaser if it had not been extravagantly extolled in the advertisement. It was the most aggravated experience I ever had of the kind, and not soon to be forgotten.

Another wrong of frequent occurrence is that the agent who advertised the place is not promptly informed of the sale of the property or some portion of it. I have been victimized several times in this direction,—once during the present week. Two years since a large place, with very valuable wood on it, attracted my attention. I concluded if I could get a man whom I knew to be an excellent one to handle wood and lumber to join me, I would buy the place. I went to see the agent at a cost of two days' time and expenses, and arranged to buy if the advertised facts in reference to the place were confirmed on examination of the premises. Two more days' time and expenses disclosed the fact that forty acres of the best of the timber had been sold for over *three months*. The most provoking part of the imposition was, that the party when expostulated with by his agent for his wrong doings, appeared perfectly oblivious as to having done anything improper, or neglecting to do anything that he should have done.

So long as such practices continue, those desirous of purchasing farms will be slow to be influenced by statements made in describing them. No one has time and money to squander in such profitless pursuits.

A word more to those desiring to sell their farms. As soon as you have decided to sell, go to work and put your premises in good

condition, if you have failed to keep them so from any cause. See that your walls and fences are in good order; bar posts and bars up; gates cared for; everything snug around the barn and in it; the cattle clean; and the house in order every way. I have been greatly annoyed and often embarrassed on going into a house to look it over to have the women apologizing about this and that untidiness, the worst of it being that there was really great occasion for those apologies by reason of the manifest daily neglect to keep the house tidy and decent for people to see.

These simple suggestions duly heeded will not cost much, but will aid essentially in selling any place at even a higher figure than can possibly be depended on if neglected. Purchasers prefer buying where no outlays for repairs are called for, and are wise in doing so.

July 22, 1871.

K. O.

For the New England Farmer.

CUTTING AND CURING HAY.

An article under this head has called forth some exceptions from the pen of C. H. Crandall, which require a passing notice. Perhaps Mr. Crandall may have taken the "extremes" that are spoken of, in his inferences. The term aftermath is used in speaking of the value for feed for milking purposes, and the argument still holds good, as the practice of any farmer will soon convince him. It was also used in showing the choice of animals between that and late-cut, hard hay. The illustration of the child is by no means a parallel case, since in one case the food spoken of as being selected by the child is not its natural food, and in the case of cattle, the nearer to green, succulent grass the food can be used, the nearer we are to nature; hence the use of steam in preparing the food.

Now about the question of going thirty or forty miles on the road with the load spoken of, we should not probably feed either of the articles named. In all labor of animals, as well as of man, there is a great loss of muscular tissue, so to speak, that must be restored, and that in the easiest manner; hence the food required is that containing the greatest quantity of flesh formers. This is not found in woody fibre.

The testimony of all is that after the period of inflorescence the stalk of grass passes rapidly into the woody state, and that the gum, sugar, starch and those ingredients that make up in a great measure the value of the food, rapidly diminish. Again, Liebig says that all plants, if left to mature their seeds, lose considerable of their value, which passes off as excrementitious matter. Another writer has said that he had rather have good bright straw for fodder than late cut timothy hay.

The reason why Mr. Crandall would prefer his timothy hay for a long drive, can be easily guessed at. It is well known that a man

will work much longer on a full stomach than upon an empty one. Now it does not require demonstrating that aftermath, or rowen, is in a state to be exceedingly easily digested; while on the contrary, the timothy hay with perhaps not as much (comparatively) material for the rebuilding of muscle, but furnishing a large bulk of woody fibre, which is indigestible, continues in the stomach of the animal much longer, and hence with a full stomach the animal does not appear to be so soon exhausted.

We would not, however, wish to be understood as recommending rowen hay for horses on long journeys, much less green grass, for the reason that the stomach would soon be filled with this bulky material, and in reality still have a small amount of material for supplying bodily waste.

We do not offer these suggestions for the purpose of influencing any person to change any course that he may at present be pursuing with satisfactory results, but simply for the purpose of directing attention to a subject that should interest all engaged in agricultural pursuits.

W. H. Y.

Connecticut, July, 1871.

EXTRACTS AND REPLIES.

THE TWO PAGES OF AGRICULTURAL MATTER.

I shall vote for two pages of hints on farming, for I am a young farmer and wish to know more about it than I do now, and am trying to improve from the many hints thrown out in your paper.

BARREN NORTHERN SPY APPLE TREE.

One of my neighbors wishes to inquire about an apple tree called the Northern Spy which does not bear fruit. It has a beautiful top, perhaps more than ought to be allowed to grow.

Weston, Vt., June 24, 1871. E. A. MOORE.

REMARKS.—As to the subject of increasing the space devoted to agriculture in the FARMER, we can only repeat our promise to find or make room for every practical hint or suggestion which may be furnished by the readers and friends of the paper, or of the cause. We should like to show you the pile of manuscript that now goes into the hopper every week.

The Northern Spy is a tardy bearer. You do not state the age of your tree. Writers on the subject of apple trees, have sometimes, with the laudable purpose of encouraging its cultivation, made statements of cases of exceptionally early fruiting which we have sometimes thought were calculated to raise expectations which are seldom realized by the sanguine planter. We have seen it stated that the Northern Spy is from ten to fifteen years in coming into bearing. To produce fine fruit this tree needs a good soil and good cultivation. With such treatment the tree is a vigorous grower, and makes a thick top. Judicious thinning may be advisable, but we should caution against anything like a severe pruning. If your neighbor is very anxious to see a few specimens of the Spy apple, he might try the process known as

"ringing" on one or two branches that may be spared from the tree. Remove a ring of bark from some limb, say an inch through, the present month, to form buds for next year; and just before blossoming next spring remove a ring of bark from another limb to set the fruit. The ring of bark should be narrow,—say one-sixth of an inch, and be careful not to injure the wood under the bark.

MILLET AND HUNGARIAN GRASS.—DAM WITH GATE ACROSS A BROOK.—A HORSE WITH LONG FRONT TEETH.

Sirs, please inform me through your paper

1. What are the comparative merits of *millet* and Hungarian grass?

2. What is the best way to construct a dam with a gate across a brook that is ten feet in width?

3. I have a horse whose front teeth seem so long that the back teeth or grinders fail to meet, hence the horse eats hay with difficulty. What shall I do for it? Please inform an OLD SUBSCRIBER.

Natick, Mass., June, 1871.

REMARKS.—1. We are not able to give you exact comparative merits between Hungarian grass and millet. But if your wish is to know which we should recommend to be cultivated as fodder—not for seed—we should say, and say it from an actual experience in the cultivation of both, take the millet. With us it has been a more certain and profitable crop than the Hungarian grass.

2. We have little experimental knowledge about building dams and setting gates in them. Where the banks of the stream are of gravel or sand such dams are usually made of that material, with some framed work for the flume or gate. But if we had a quiet little brook, and wished to avoid the labor of carting or wheeling gravel, we should not hesitate to tongue and groove two-inch plank and drive them into the bottom of the brook, side by side, and insert the gate in other grooves made by nailing strips upon the planks which are to hold the gate in place. Practical advice, however, is safest for you.

3. About the horses' teeth. Get a person who has the nippers, and who knows how, and he will cut off the front ones without pain to the horse, so that he can eat comfortably again.

ON MOWING, PLOUGHING AND SOWING BUCKWHEAT.

I wish to make an inquiry through your paper, whether I can improve a piece of worn out land cheaper by ploughing it as soon as it is mowed,—for I wish to save what little grass there is,—then sow on buckwheat, and as soon as it gets large enough plough it under? It is some distance from the buildings and I want the manure for other land.

I am much interested in your paper, especially that part relating to the use of muck as a fertilizer. I have had some experience with it by the way of putting it in the hog yard, then putting in the suds from the kitchen and chamber slops, making a phosphate equal to Bradley's or any other. I have an acre of corn with no other manure, that is equal if not superior to any in town.

There are several other points I should like to talk with you upon, but dare not for fear I shall say something that will not be just right. One is

about a cultivator that I have just made, that is superior to anything I ever saw of the kind.

Cluster, Vt., June 28, 1871. J. J. MINER.

REMARKS.—Success in the operation which you describe would depend upon two conditions. First the presence of plenty of *moisture* in the soil, and some *fine manure*, which the sprouting seeds could lay hold of at once. Your work would be done in the midst of the hottest season, and when the soil is usually quite dry. A little manure, even, would be serviceable in such a case. Ashes would be excellent. With these conditions satisfied, there can be little doubt but what you would improve your land by the plan you propose. The grass roots decayed, and the green crop added, would give a fair manuring.

Tell us all about your new cultivator, and any of your farm operations. We are interested in them.

THE FIVE-SPOTTED HAWK MOTIL.

Enclosed I send you an insect of a kind I never saw before, neither did any of my neighbors. Will you please inform us through the *FARMER* what its name is, its habits, &c.?

Lancaster, July 10, 1871. H. G. BALLOU.

REMARKS.—The butterfly was received in good condition, and is the perfect state of the very large green caterpillar, with oblique whitish stripes on each side of the body with a kind of thorn upon the tail, which you have occasionally seen upon your potatoes, tomatoes, &c. Mr. Harris in his *Treatise on Insects* says, it attains its full size from the middle of August to the first of September, then crawls down the stem of the plant and buries itself in the ground. Here, in a few days, it throws off its caterpillar-skin, and becomes a chrysalis, of a bright brown color, with a long and slender tongue-case, bent over from the head, so as to touch the breast only at the end, and somewhat resembling the handle of a pitcher. It remains in the ground through the winter, below the reach of frost, and in the following summer the chrysalis-skin bursts open, a large moth crawls out of it, comes to the surface of the ground, and mounting upon some neighboring plant, waits till the approach of evening invites it to expand its untried wings and fly in search of food. It measures across the wings about five inches; is of a gray color, variegated with blackish lines and bands; and on each side of the body there are five round, orange-colored spots encircled with black. Hence it is called by English entomologists *Sphinx quinquemaculatus*, the five-spotted Sphinx. Its tongue can be unrolled to the length of five or six inches, but, when not in use, is coiled like a watch-spring, and is almost entirely concealed, between two large and thick feelers, under the head.

CELLAR DIET FOR GRASS LAND.

Will the editor or some of the numerous readers of the *FARMER* please give me their experience through the *FARMER*, whether the clay dug out of a cellar would be beneficial to grass land, or would it be injurious? In this neighborhood there is such

a diversity of opinion about it, that I should like to get the opinions of persons who have or have not used it. I have a very large heap and it must be removed. When wet it is very greasy, but when dry and slacked, resembles sand more than clay or mud. How thick should it be spread on the grass? Would it be any detriment to corn land which is now in pretty good heart. JOHN WHATMORE.
Bridgnorth Farm, Dudley, Ill., 1871.

REMARKS.—The clay dug from a cellar, of which you speak, will probably prove an excellent article for top-dressing grass lands, especially those of a light or sandy character. We are using something of the kind annually for that purpose, and for covering the manure in the cellar during the warm season. In excavating for a barn cellar, several years ago, large quantities of clayey earth were preserved for these uses. We find it not only very convenient but quite valuable.

You will not be likely to spread it too thickly; but ten to twenty horse loads to the acre, added annually, or once in two years, would be better than a heavy coating at once. By the way, the true value of a dressing of most earths which are free from stones, to grass land, is not generally appreciated. A top-dressing of yellow loam even, on a compact soil, will greatly assist a grass crop. All soils, we suppose, contain fertilizing properties, and when applied to the surface, these properties are washed down among the roots and are quite beneficial to the crop. Our advice is to use all you have, and get more if you can.

Of course the value of all subsoils for surface dressing, depends on their composition. On page 523 of the monthly FARMER, 1870, experiments by Mr. Gregory, of Marblehead—the seedsman—are given, in which the hard pan of some old, well-cultivated fields proved exceedingly valuable as a fertilizer. Such applications may serve a good purpose as a mulch, in addition to its value as a fertilizer.

CANNING OR DRYING PEAS AND CORN.

Will you please to inform me through your valuable paper, to can green peas and corn? I tried last year and it was a complete failure.

MRS. AMOS TAYLOR.

Ashby, Mass., July 14, 1871.

REMARKS.—No, we cannot; but perhaps some of the good housewives who read the FARMER may be able to do so. But why fuss with canning when the corn at least can be dried so easily? When sweet corn is plenty, or if you have to buy, when it becomes cheap, as it usually does late in the season, boil a whole kettle full as you would for the table, then cut the kernels from the cob, place them on tins, and dry them by the stove or in the sun. The oftener it is stirred the sooner it will dry. When sufficiently dry tie it up in cloth or stout paper bags. When wanted for breakfast, soak a mess over night in cold milk, if there is no danger of souring; but if there is, heat the milk before pouring it over the corn. If milk is scarce soak it in water. In the morning put it over the stove and warm it, buttering and salting to taste,

and you have a luxury good enough, and probably equal to that successfully put up in cans,—a matter in which others as well as yourself have made “a complete failure.”

LAME PIG.

I have a pig that wants to lie down about all the time, and when it is up seems to be weak across the loins; keeps hoisting first one hind foot and then the other when eating. It eats some but grows very little.

H. S.

Lowell, Mass., July 10, 1871.

REMARKS.—If you had the bound volumes of the monthly FARMER for the past four years, you would be able to refer to the experience and views of quite a number of farmers with this trouble. Many think the disease is similar to the gout in man, and that it is caused by high living and lack of exercise, and advise some mild physie, withholding food and giving the animal a chance to “root hog or die.” If the pig cannot have the “liberty of the yard,” give him sods, earth, ashes, coals, lime, &c., in his pen, and don’t feed him until he can walk up to the trough and help himself.

This advice does not exactly agree with that of the veterinary editor of the *Western Rural*, who replies, in the number now on our table, in the following manner to an inquiry similar to yours:—

Pigs are sometimes affected with palsy or paralysis of the hind limbs, and its symptoms are loss of appetite, acceleration of the pulse, and swelled tongue. It is generally caused by derangement of the digestive organs, occasioned by the use of unwholesome food, or by a sudden change from dry to succulent food, or *vice versa*. The disease yields to judicious treatment, such as the removal of the predisposing cause; good nourishing food, gentle purgative medicine, a comfortable pen, and moderate exercise. Two or three weeks careful treatment will probably be sufficient to restore them to proper health.

The difference between us is not great, however, and you are at liberty to follow either course—if your pig don’t get well on his own hook; which, as a sensible pig, we expect he will do before this sage advice reaches you.

FIVE COWS DEAD—MURRAIN.

One of my neighbors within three weeks has lost five cows; and has now three more that will probably die. In the first place they cease to give milk—then begins a diarrhoea, discharging blood and what seems to be pieces of putrid flesh. In about two days they commence trembling, are feverish and seem to be in intense distress. The animals attacked have lived from three to eight days.

Can this be murrain? and will the pestilence spread? are questions asked but not answered. Any light upon the subject through the columns of the FARMER would be read with interest.

The drought in this region, at this season of the year, is unprecedented, and the hay crop is fully one-third less than an average.

P. JOHNSON.

Shrewsbury, Rutland Co., Vt., July 11, 1871.

REMARKS.—The symptoms described are similar to those of Bloody Murrain, but the disease may have a local cause. Has the drought of which you speak deprived the cows of good wholesome water?

Our veterinary adviser is absent this week, and we publish the foregoing at once in the hope that some of our correspondents will be able to advise our Shrewsbury friend, as to the probable cause and nature of the disease, and its proper treatment.

As preventives of the murrain, Mr. Cole recommends giving salt freely, mixed with lime or ashes; also sulphur, and tar; the tar may also be rubbed on the nose and between the horns.

The murrain is difficult to cure. The sick should be separated from the healthy, as the disease is regarded as infectious. Give physic and laxative food when there is costiveness; but when there is diarrhoea, check it, by giving four ounces of powdered chalk, two ounces of powdered anise-seed, one ounce of powdered ginger and one drachm of opium, cut fine, and mixed in a quart of warm gruel.

Mr. Brooks, of Princeton, Mass., bleeds in the first stages, till the animal falters, and, when diarrhoea prevails, gives one ounce of chloride of lime and one drachm of opium. To prevent constipation following, give bran mashes and other laxative food, and if this treatment does not prevent too sudden check to the looseness, give two or three ounces of salts daily. Dissolve the opium in water.

JEFFERSON COUNTY PIGS—ORCHARD GRASS.

Can you or any of your subscribers inform me where I can get any Jefferson County Pigs? Can you inform the value of Orchard grass for hay? Would it grow on a yellow gravelly knoll?

Blackstone, Mass., June 14, 1871. F. O. W.

REMARKS.—The "American Agricultural Annual" gives the names of two dealers in Jefferson County Pigs, both of them in Watertown, N. Y. If any one nearer has this variety for sale it may be for their advantage to advertise the public of the fact.

In his work on "The Pig," Mr. Harris says this breed has been advertised under the names of "Cheshire," "Yorkshire," "Improved Cheshire" and "Improved Yorkshires." These names he thinks indicate the origin of the breed. He says it is said that a large sow of the old English Cheshire breed was taken from Albany to Jefferson County, and about the same time some thoroughbred Yorkshires were introduced into the same neighborhood from England.

The best specimens of Jefferson County pigs as shown by the leading breeders, Mr. Harris says are as handsome pigs as can be desired. Color, white; small, fine ears; short snout, with a well developed cheek; long and square bodies; good shoulders and ham, and very small bones for such large hogs. As compared with the Chester County breed, he says they are nearly or quite as large, have finer bones, ears and snout, and are altogether superior in form, beauty and refinement to any Chester Whites he has ever happened to see.

We are not able just now to add anything to what we have recently published in relation to

orchard grass. Whether it would grow on your "yellow gravelly knoll" will depend on conditions of the soil which cannot be inferred from your description. If it is too poor to grow other kinds of grass, we should not expect orchard grass would amount to much on it.

THE USE OF MUCK.

In your issue of June 24th, I find a short article on the use of muck. I am pleased *always*, to see the subject noticed. My muck bed is my only hope of salvation in agriculture. My experience is largely on the side of muck,—dry muck, not only in the hog-pen, in the barn yard, under the privy, under the sink spout, in my stables, but use it raw, or just as it comes from the bog.

Though absent from home most of the past year, it was my good fortune to be on my farm a few days last summer during the drought. Advantage was taken of the "situation," and five hundred ox loads of very nice muck were put out upon the uplands. Sixty were spread directly upon an old grass field, covering an acre and a half pretty thoroughly. At the present time, indications are that the grass crop will be much better for the muck. It was all taken from basins in my pasture. The water being out of one of them entirely, we had it all our own way, and got it as easily as we could manure from the yard. That being cleaned out, our attention was turned to another basin in which the muck was twelve feet deep. There was some water here, but by the use of a few boards and nails, and tools at hand, a pump was soon constructed, that would throw out one hundred barrels per day. The water was somewhat exhausted, and soon the knolls in the vicinity had each a huge black cap on.

I prefer these small basins, for they afford the best muck. It is composed of the vegetable matter there grown, and the drift from the upland, and has not been washed by the water. But we find a difference, even here, in its effects upon crops. It was decided, by the council interested, to plant a certain patch of land to potatoes, and to manure with clear muck. At this time, they are all up and growing finely, except the ends of three rows,—about what one load would do. There, the potatoes are looking rather puny, and we find there a finer, lighter colored article than that in other parts of the field. We conclude that load was from the bottom of the bed and that it contained more acid than the other. It only needed a little more exposure, to make it all right.

I give you this experience, hoping it may give courage to some doubting Thomas, so that he may at least try his hand at digging for gold in the muck bed. My observations during a recent three month's stay in the West, convinced me that farmers in New England must take advantage of *every circumstance*, or he run off the track on all staple products of the farm. Some future rainy day, I will give you my *theory* on the muck question, which led me so deeply into it. Z. BREED.

Weare, N. H., June 24, 1871.

PICTURESQUENESS OF FARM LIFE.

It ought to be, and doubtless is, a great consolation to the farmer, while making lay under the scorching rays of a July sun, or hoeing corn with a generous portion of one of the planets clinging to his garments,—or employing the bright hours of "incense-breathing morn" in fighting caterpillars, currant worms or squash bugs,—to know that he forms a beautiful picture for the far-off artist or poet. In this respect as in many others, no occupation can compare with agriculture. He must be a genius, indeed, who would make the carpenter,

with plane and hammer; the mason, with trowel and mortar; or the wheelwright, in the midst of a confused multitude of hubs, spokes and felloes, the subject of a picture or a poem. The blacksmith has been a little more fortunate; his work being suggestive of Vulcan and the Cyclops. The *solitary* shoemaker has also been casually remembered. But a noisy shoe shop could hardly be an attractive place for the "sacred nine." It is far otherwise with farm life. Almost every branch of agricultural labor as performed in the days of our forefathers—from the preparation of the soil in early spring, to the ingathering of the harvest in late autumn—has been made the theme of the poet's song.

It is to be feared, however, that the spirit of progress will rather stand in the way of further attempts of this kind. Is not the clatter of a mowing machine, for instance, sufficient to scare away every poetic thought? How different from the noiseless swing of the scythe! But we will try and take a hopeful view of the matter. Perhaps there may arise a class of poets who can meet the exigencies of these utilitarian times, and make even mowing machines and horse rakes subservient to their genius.

MATTHE.

Marlboro, Mass., July, 1871.

AGRICULTURAL ITEMS.

—An early spring—Jumping out of bed at four o'clock in the morning.

—Henry Clay's old home, Ashland, has been purchased by the University of Kentucky for \$90,000.

—The *Maine Farmer* says, "We observe that the beech trees have blossomed abundantly this year, and the nuts appear to be now well set."

—The cultivation of tobacco in Missouri is falling off every year; not more than one-third as much is raised there now as ten years ago.

—An exchange says that if tree-planting continues in Iowa for ten years at this year's rate, 1885 will find the State beautified with great forests.

—The Missourians appear to have arrived at the conclusion that, for the raising of stock, "blue grass" is the best possible feed.

—According to the amended game laws of New York, all persons are prohibited from destroying or robbing the nest of any wild bird whatever, under penalty of \$25 for each offence.

—The State agricultural societies of Vermont and California propose to exchange fruit specimens this year, each sending to the other's annual fair three specimens of ten different kinds of apples, pears and grapes.

—No plant yields anything like as much nutriment from the same extent of soil as the banana. Baron Humboldt estimated that it returns 20 times as much as the potato, and 113 times as much as wheat.

—The Geneva (Ill.) *Republican* says that the potato bugs have entirely disappeared from that neighborhood, and attributes this freak of fortune to the salutary influence of the seventeen-year locusts.

—The *Western Farmer* says: "The probabilities are that more tobacco will be raised in Wisconsin

this year than ever before. In a number of neighborhoods where it has not hitherto been grown, there will be many acres planted.

—A Western editor, who doesn't know much about farming any way, suggests that for garden making, a cast-iron back, with a hinge in it, would be an improvement on the spinal column now in use.

—Advices from Louisiana report the State in a deplorable condition agriculturally. The excessive rains and floods have so saturated the ground that it has been next to impossible to work it. Cotton has no stand at all, and the feeble corn crop is overwhelmed by weeds and grass.

—V. P. Richmond says in the *National Live Stock Journal*, that he has removed from the neck of one of his horses eight or more hard and bleeding warts, some of them as large as a hen's egg, simply by rubbing on *fresh lard* twice a-day. Others, he says, have had the same success.

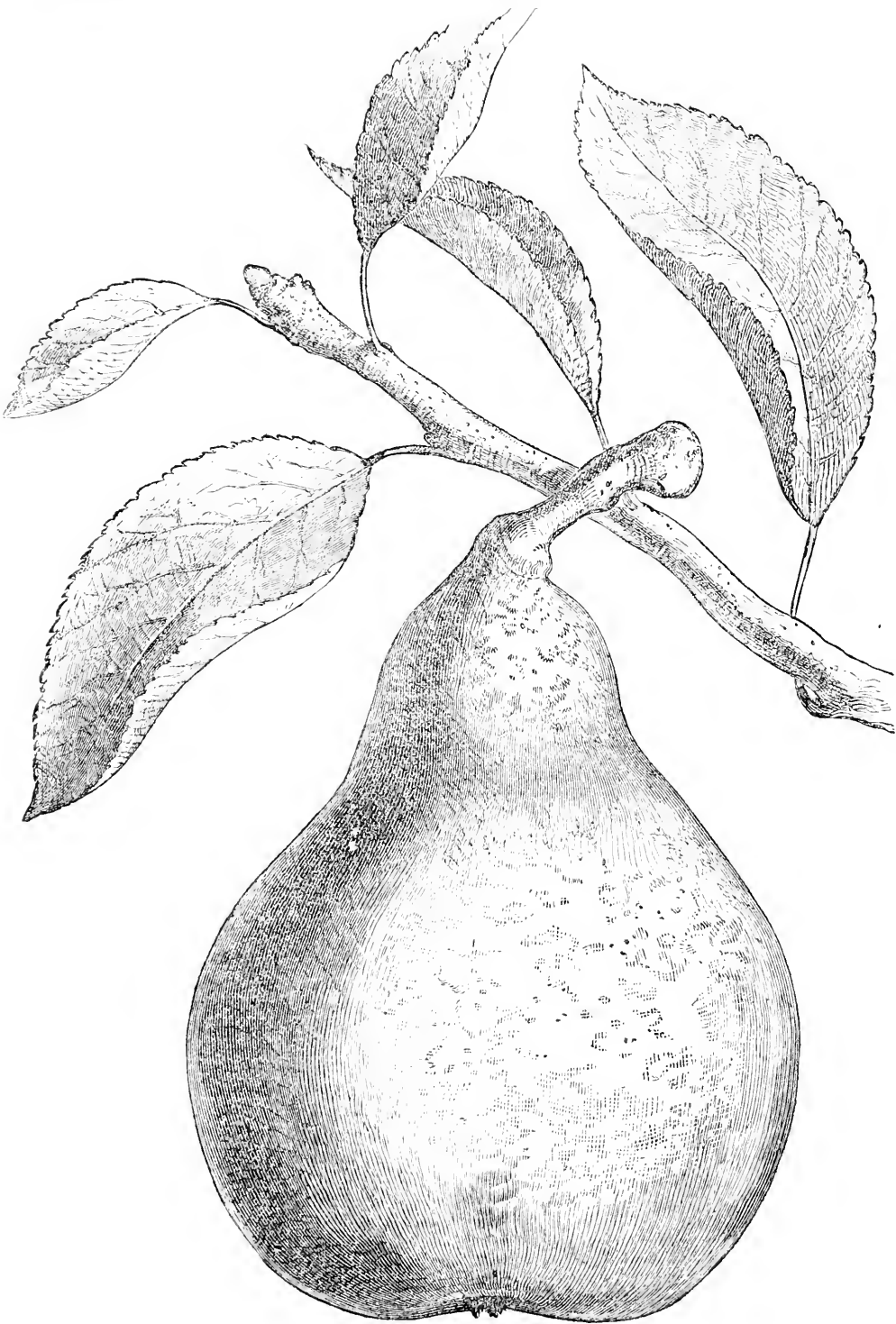
—The Sycamore, (Ill.) cheese factory now uses over 17,000 pounds of milk daily; a larger amount than any other factory in the United States. The Belvidere factory uses 11,000 pounds, the Garden Prairie factory 7,500 pounds, and the DeKalb factory 3,000 pounds.

—The farm of Senator Chandler of Michigan, near Lansing, comprises 3,087 acres, of which 900 acres are upland and the remainder marsh. The marsh has been drained so that it is comparatively free from water. Experiments are being made to test its value for farming and grazing purposes; and thus far with very satisfactory results.

—To destroy moths in carpets, wring a coarse towel out of clean water; spread it smoothly on the carpet; iron it dry with a good hot iron; repeat the operation on all parts of the carpet suspected of being infested with moths. No need to press hard, and neither the pile nor the color of the carpet will be injured, and the moths will be destroyed by the heat and steam.

—The Portland, Me., *Transcript* tells of a citizen of Kennebec county, who has a goose twenty-four years old. "In March she laid twelve eggs and hatched twelve goslings; when they were two weeks old she began to lay again, the gander taking care of the goslings; she laid nine more eggs, and hatched nine more goslings, making twenty-one goslings in one season, and they are all alive and doing well."

—This is one of the "insect years." The West swarms with potato bugs, chinch bugs and locusts; the Hessian fly and clouds of grasshoppers are devastating the fields of Los Angeles county, Cal.; the black caterpillars are worse in Arkansas than ever known before, and are stripping the leaves of the forest; Virginia planters complain that never were the tobacco flies so numerous and destructive as this season; and throughout the South is dismay at the number, size and voracity of the mosquitoes.



BEURRE CLAIRGEAU PEAR.*

This winter pear originated at Nantes, France, by M. Clairgeau, and was first introduced here in 1848. Our illustration (see opposite page,) was drawn from a specimen raised by Andrew Lackey, Esq., of Marblehead, who described it as an early bearer, and wonderfully productive; so much so that unless the fruit is thinned its energies will soon become paralyzed if not exhausted, and the fruit inferior.

The following is Mr. Thomas' description of it. Large, pyramidal-pyriform, approaching long obovate, skin yellow or reddish brown, often with a crimson shade towards the sun and brown dots,—not distinctly shown in the cut—stalk short, stout, fleshy, oblique, sunk little or none; basin shallow, furrowed; flesh white, slightly granular, buttery, melting, often with a rich, very good flavor, but frequently poor. November and December. Shoots reddish purple, short, erect and ascending; leaves stiff.

In a list of eighteen pears recommended by the Massachusetts Agricultural Club, we find the name of this pear. In the catalogue of pears published by the American Pomological Society, the Beurre Clairgeau is recommended for cultivation in Connecticut.

It is a very showy fruit. The specimen from which our illustration was made, was one of four grown on a tree three years from the bud.

*Pronounced *Klair-zho*, accent on last syllable.

MANAGEMENT OF GRASS LANDS.

We are now prepared to say a few words on the general management of grass lands; how we can succeed in keeping up the fertility of our fields so they will yield annually a heavy burden. We have the choice of three methods: first by frequent top-dressing; the second is to break up as soon as the amount of hay diminishes in quantity, plant with hoed crops one or two years and then seed to grass with grain; third, break up when required and re-seed in September. The first is a long rotation, the others short. The top-dressing is cheapest, simplest and most profitable. The rotation with hoed crops requires more labor, which is expensive, and large quantities of manure, to be successful. I have tried the three methods; the top-dressing has proved most satisfactory. There is a slight advantage in ploughing often in the fertilizing matter gained by turning under a grass sward, but it is not so important as the first view of the sub-

ject would suggest, for a sward that has received two or three liberal top-dressings is much richer when turned under than a bound-out sward.

Experience is often a hard school-master. I made many mistakes before I hit upon the right course to adopt in managing my grass crop; the system of management which I have adopted, if a practice so simple might be honored with such a title, grew out of some accidental experiments to increase the hay crop; the lessons taught by failures were more valuable than those by success, and I have found it far safer to patiently grow, rather than undertake to jump into the art of a successful farmer.

Top-Dressing.

It does not require very rich compost to give large returns in top-dressing grass lands. My way of composting for this purpose is of home-made materials, easily and cheaply manufactured. I prepare it as follows: During summer, as leisure occurs, I cart from twenty to thirty cords of loam, road-wash, muck, leaf-mold, or the waste of charcoal pits, whichever material is most readily obtained, or a mixture of them, into the barn-yard and spread it; the yard has a hard bottom, and is lowest in the centre. I then draw from five to eight cords, as near one-fourth part of the absorbents as I can judge, of rich manure from the barn cellar, which is evenly spread; this is the agricultural yeast to leaven the whole mass. I now plough and harrow thoroughly; if I want more compost I draw more materials, plough and mix as before. I afterwards plough and harrow two or three times at intervals of a few weeks, when the compost is ready for use. I prefer to apply it just before the fall rains, about the last of October or the first of November. It may be spread from the cart or laid in heaps and spread afterwards, which is the cheaper way, where there is plenty of help, but most men would spread it even, which is a point worth considering, from the cart. I apply as near six cords of the compost to the acre as possible. After spreading, I go over the field with a heavy brush harrow to fine the lumps and work the compost into the grass stubble out of the way of the scythe or mower next season. It protects the roots of the plants from the cold winds and exposure; gives the grass a beautiful early start in the spring, making a quick, luxuriant growth, which shades the ground, keeping it moist in dry weather; it also acts as a mulch in the summer, after the grass is cut, and largely increases the second crop, which is of much importance.

It will not pay to top-dress a bound-out sod; the compost should be applied before the best grasses die out or decrease much in their product, to give the finest results. I like to top-dress after the land has been mowed three years, then every other season till it is broken up again, and my rule is to let

it run as long as it will yield abundantly and the wild grasses keep out. This method, or system, works admirably on moist, natural grass lands and reclaimed meadows. I could cite many instances from my farm record where by applying top-dressing the yield of hay has been doubled for three successive years, when the crop before the application was not more than a ton to the acre. I can in this way obtain four times as much profit from the same quantity of manure as I can by planting corn; my land, however, is better adapted to grass than corn.

Care of Grass Fields.

All rubbish should be picked from grass fields in early spring, and a sharp watch kept to destroy large, coarse weeds, as they take room and nourishment from the growing grass and dilute the hay.

Fall Feeding.

Feeding mowing lands in the fall is an injurious practice; if there is any amount of growth it is better to mow it, and keep stock out of the fields entirely. When they are fed, the droppings of the cattle should be beaten fine and well scattered in the early spring. No good farmer will allow his fields to be touched with a hoof when the ground is soft in the fall or spring. Feeding mowing fields in the spring ought not to be mentioned; the farmer who practices it cannot be a thinking man, has not capacity of judgment enough to discern his own interest, and could not appreciate a better way if he was taught it.—*Address of G. F. Beede, Fremont, N. H., in Mirror and Farmer.*

PLOUGHING UNDER CLOVER.

In 1864, I ploughed up a field of clover and planted corn. In 1865, planted corn again, and used the cultivator very freely both years to kill the weeds. In 1866, sowed barley, followed by wheat, and seeded down into clover in the spring. In 1867, mowed the clover for hay, and the second crop for seed. In 1868, mowed it again for hay. After the hay was off we ploughed half the field, and allowed the other half to produce a second crop of clover. It was a wet season, and the second crop of clover grew splendidly. I think it would have made a ton of hay per acre. This clover we *ploughed under*.

The next spring (1870) the whole field was cultivated, but not ploughed, and sown with barley. I could see no difference in the growth of barley on the part ploughed immediately after hay harvest, and that when the clover was allowed to grow and then ploughed under. After the barley, the field was ploughed and sown to winter wheat. So far, I can see no difference in the color or growth of the wheat.

There was no more labor expended on the one part of the field than on the other. The

only difference was, that one was ploughed before the clover commenced to grow, and the other after the clover had attained its growth. The presumption is, that notwithstanding the fact that a large growth of clover was ploughed under, there was no more nitrogen or other plant-food in the soil on one part of the field than on the other. The plant-food organized in the clover was simply taken out of the soil, and was merely returned when ploughed under. Had the part of the field ploughed immediately after harvest been harrowed, cultivated, and then ploughed again in the fall, and otherwise exposed to the decomposing influences of the atmosphere, I believe *more* plant-food would have been developed from the soil than on the part where the clover was allowed growth. This probably would not be the case in poor, sandy land; but I have no doubt that clay loams, which abounded in latent plant-food, would become richer from being worked and exposed to the atmosphere than from the mere growth of clover. If there is any evidence to the contrary, I would like to have it produced.

I believe in clover. No one has written more in its favor as a renovating crop. We cannot grow too much of it. But it should all be consumed on the farm, and in addition, the clay-land farmer should "fall-fallow" as much land as he can. I am satisfied, though I admit the evidence is not conclusive, that fall-fallowing is more in accordance with the facts of scientific farming than the practice of ploughing under clover.—*J. Harris, in American Agriculturist.*

HOME-MADE REFRIGERATOR.

I want to give the readers of your valuable and interesting paper the benefit of an idea about preserving ice in a cheap and convenient manner. Nearly all persons who cannot afford a nice zinc-lined refrigerator or ice-chest keep their ice in sawdust, straw or some such non-conducting material, which is very inconvenient and wastes the ice. We had always done so until last season, and I am satisfied that there are thousands of families who think they can dispense with a refrigerator, but not with ice.

Last season I took two wooden boxes—the first large enough to contain the second and leave a space of a couple of inches all round, top and bottom, then I bored a hole (one or one-half inch is large enough), in the bottom of each for ventilation and drainage, then made a lid with hinges (leather ones in my case) for each box, placed some slats in the bottom of the larger and placed the smaller box on them, put some pieces at the side to keep the smaller in place, and the refrigerator was done.

This year I improved upon the old one, by making a zinc lining for the inside box out of an old sheet that had done service under a

stove. I nailed on some legs which are placed in tea-cups filled with water to keep out ants and bugs, and also made a rack by nailing some pieces of lath together to put on the bottom, to keep the ice from the bottom. We take fifteen pounds a day, and are never out, while some of our wealthier neighbors, who take the same quantity and have refrigerators "improved," etc., etc., are out half of the time.—*Hearth and Home.*

TEXAS CATTLE.

A Texan correspondent of the *Turf, Field and Farm* expresses views in respect to cattle raising there, which to some of our readers may be new:—

"Much has been written about this State, and strange to say, even those who are most enthusiastic in their praises of Texas, have invariably named, as the most prominent and valuable characteristic, the very feature which is an absolute curse to the State, and the barrier to civilization and the settlement of the rich farming lands which lie spread out here for hundreds of miles in extent.

"They talk about the Cattle Kings of Texas with great emphasis, and speak of this business of cattle raising as an inducement to bring settlers to the country. Now this is the very thing that keeps the ploughman away from Texas. The cheap lands so often spoken of are here in abundance, but you can't use them unless you have a fortune in your pocket to pay for barricading your corn-patch against the wild cattle which roam every where. If it was not for this cattle business the State would be filled up with farmers who would cultivate the land, raise grain, fence in their grass land and produce beef enough to feed the world. I have examined this Texas cattle business thoroughly, and a more complete burlesque on stock-raising could not be gotten up.

The prairies are failing fast. The continual tramp, tramp of broad horns is wearing the life of the "luxuriant grass" away, and bringing up the weeds by big majorities. A few years ago the wild grass grew up high on the prairies, and when the winter months came the stock found food to keep them going. But now the Ranger's occupation is almost gone, and only a little while longer will his herds be seen roaming over the wilds of Texas."

FENCE POSTS.

The timber in a tree cut at its best is much more lasting than that from a young tree, or from one past its prime, although the latter may show no sign of decay; and all trees lose rapidly in strength and solidity, and in the same or a greater ratio in durability from the ground up, and from the heart outward. A post that is seasoned is, under the same circumstances, much more durable than one set

green; and the nearer the heart, the more lasting the wood in the same tree, if thoroughly sound.

Even a basswood post that is well grown, and thoroughly seasoned, will last several years,—as long as a sappy oak set green.

As to red elm, while it does not equal oak in the natural property of durability, it may be made to outlast that timber, as usually set. I have some posts of elm, set eight years, and they will last, I do not doubt, as much longer. They were made of trees cut for the bark, and were season two years.

I have seen oak posts fail in five years, and have seen them when they stood more than five times that long.

I have heard men say that white cedar was of no value for a fence-post—not so good as oak; and they were right from their experience. They used the young trees, just large enough for one post. They soon decayed, and would not hold a nail; eight-pennys being used.

I have one white cedar post to which a gate has been hanging for twenty years, and it is good yet. I have others, larger, that are good, I have no doubt, for thirty or forty years from setting.

A white cedar should never be cut until it is large enough to saw and make four good posts; and if larger still, better, if, as said above, it is not failing—has not lost solidity, which a cedar holds to extreme age.

A fence properly constructed of such posts, and pine or hemlock boards, with the posts set two and a half feet deep, and duly tamped in with gravel, and the nails used are long ten-pennys, will last fifteen or twenty years good; and if at the right time it is taken down, and the posts reversed, and re-built with new nails, it will then last ten or more years longer.

A fence to be durable, must not only be of good material, but be well built; and very often more depends upon the good judgment and honesty of the builder than upon the character of the material used.—*Western Rural.*

REMARKS.—From our own experience we think that the durability of wood depends, in a great degree, on the season of the year in which it is cut; and that the proper time for cutting fence posts is indicated by the remark of the writer of the above, that his red elm posts, which last so well, were cut when the bark would peel.

PICKLING CUCUMBERS.

No. 1. Take cucumbers, wipe them clean, and lay them into stone jars. Allow one quart of coarse salt to a pail of water; boil the salt and water till the salt is dissolved; turn it boiling hot on the cucumbers; cover them up tight and let them stand for twenty-four hours; turn them into a basket to drain.

Boil as much best cider vinegar as will cover the cucumbers; wash out the jars, and put the cucumbers into them; turn the vinegar on boiling hot; cover them with cabbage leaves and cover them tight. In forty-eight hours they will be fit for use.

No. 2. Pick cucumbers each morning, let them stand in weak brine three or four days, putting in mustard pods and horse radish leaves to keep them green. Then take out and drain, covering with vinegar for a week; at which time take out and drain again, putting in new vinegar, adding mustard seed, ginger root, cloves, pepper and red pepper pods, of each about one or two ounces, to suit different tastes, for each barrel.

The vinegar must be changed once, as the large amount of water in the cucumbers reduces the vinegar so much that this change is absolutely necessary, and if they should seem to lose their sharp taste again, just add a little molasses or spirit and all will be right.—*Receipt Book*.

Alum will harden cucumbers. To a gallon of vinegar, add one ounce of powdered alum. If the vinegar is put into bottles tightly corked, and set in a kettle of cold water, with hay or straw between them to keep the bottles from knocking together, and allowed to remain over the fire until the water boils, then removed, and kept in the kettle until nearly cool, the vinegar will keep perfectly clear when used for pickles, but it should be added to them cold. Shreds of horse radish root will prevent all pickles from moulding.—*S. O. J., in Country Gentleman*.

THE FROG IN THE HORSE'S FOOT.

The frog in the horse's foot is evidently designed for very important uses. If we carefully observe the form and size of the frog in the foot of the colt, from four years old at first shoeing, and then note the changes which it undergoes, as the shoeing is repeated, we shall soon be convinced that a visible departure from a state of health and nature is taking place. At first it will be found large and full, with considerable elasticity, oval in form, at the heels fully developed, plump and rounded. By degrees the fullness and elasticity will be observed to have diminished, its oval form will disappear and it will dwindle into a narrow crack, presenting only the miserable remains of a frog. The question is, Why is this so? I believe that most of the mischief is the unnecessary evil of paring. The smith, in paring the foot, comes to the frog and takes a slice from each side of it, for it presents an even, smooth, clean-looking surface when cut through, that to resist the temptation is more than falls to the share of most smiths.

The reasons for not paring the frog are, first, the frog has naturally less power of producing horn than any other part of the foot,

it immediately checks the growth of the frog and prevents the expansion of the hoof, exposing the membrane which secretes the horn to undue pressure. The layer of horn that covers the frog is thinner in substance and more delicate than that of any other part of the foot; and when once destroyed is very imperfectly and sparingly reproduced. As a general rule I would say, let the frog alone.

Perhaps about one in a thousand may form an exception, where a large, loose-textured frog may require a little paring once or twice a year. The frog is provided within itself with two very efficient modes of throwing off any superfluous horn it may be troubled with.

The first and most common is the separation from its surface of small, bran-like scales, which, becoming dry, fall off. The other is upon a larger scale, called casting the frog. A thick layer of frog separates itself in a body and comes off to the usual depth of paring.

But it is worthy of remark that there is a very important difference between the two operations. Nature never removes the covering until she has provided another beneath, and there still remains a perfect frog covered with horn, and in every way fitted to sustain exposure; while the knife, on the contrary, removes the horny covering, but is unable to substitute any other in its stead. My advice would be to let the frog alone.—*Western Rural*.

THE WOOL MARKET.—Tedious as has been the time of waiting for a vindication of the wisdom of the wool tariff of 1867, our revenge has come at last; and while we do not desire to add shame to the confusion which has overtaken our revilers, we take this occasion to ask them, one and all, how they like it as far as they have gone? With California fleece at 35 to 40 cents, XX Ohio at 55 to 60 cents, and picklock at 65 cents, and even the "nasty, greasy Merinos" of New York and Vermont State at 50 cents, and with gold at \$1.10 1-2 to \$1.11, we feel that the tariff is fully vindicated as a measure of fair protection to the American wool grower, and put this opinion on record, on behalf of the gentlemen whose patriotic labors contributed to bring this state of things to pass, of whom the writer, having shared fully in the calumny, desires to share in the glory of success.—*Col. Harris, in Rural New Yorker*.

DANGER IN SOAP MAKING.—The *Delphos Herald* tells of a lady meeting with a serious mishap while making soap at Sandusky City, recently. While the soap was boiling at a lively rate, she turned into the kettle a quantity of cold lye, when the contents exploded with great force, scalding the persons present in a shocking manner. The explosion was instantaneous and so powerful as to leave the kettle entirely empty.

RAMBLES AMONG THE FARMERS.



ABOUT the middle of June last, we had the great pleasure of visiting several farmers in the eastern portion of New Hampshire. One object in view was, to learn whether farmers do not, as often as persons engaged in other business, succeed in their vocation, and establish permanent and desirable homes. In the FARMER of

July 1, we gave an instance, that of the MESSRS. HAYES, of Portsmouth, where a farm, stock and tools have been accumulated to the value of about \$50,000, and entirely aside from speculation or any other business than that of farming.

There is another style of cultivating the soil, however, which we did not fail to look at and appreciate,—and that is, where means have been secured in other callings, and farming engaged in to gratify the taste and make the world more beautified. A notable instance of this kind is in the estate of the Hon. FRANK JONES, late mayor of the city of Portsmouth. The means, however, which he has so abundantly and judiciously, too, bestowed upon his farm, were all acquired by his own industry and skill in mechanical and mercantile employments. His head and his hands—not capital left by others—have been the power which have brought him affluence and distinction.

All the buildings, fields, fences, gardens, yards, tools, &c., on the farm afford examples for imitation. Lands that for ages had been unproductive for want of drainage and breaking up to the sun and air, were teeming with crops of grass and grain, and paying a handsome interest at \$300 or \$400 per acre, for agricultural purposes.

In subduing this land, and making it productive, he not only gratifies his taste and secures health, but increases the valuation of the town, and in a double ratio the land of his neighbors lying in the vicinity of his own. He is not only a public benefactor in profitably producing two spears of grass where only one,—or none,—grew before, but in affording an example of what an acre of land is capable of producing, under proper cultivation. Mr.

JONES not being at home, we were not able to get details of his methods of culture.

Our next visit was to the farm of Col. JOSHUA PIERCE, of Portsmouth. His principal business through a long life has been mercantile. Highly appreciating rural life and its labors and enjoyments, he has given much time and thought to the cultivation of the soil, rearing of stock, and fruit culture. The farm is now a princely estate. It consists of 1200 acres of most excellent land. Col. Pierce is now nearly or quite eighty years of age, does not often visit the farm, but trusts its management to his agent, Mr. WALTER SCOTT. Six pairs of oxen were wintered on the farm last winter, none of which were of less girth than six and one-half feet, and so on up to nine feet! The whole number of cattle wintered was ninety-four head; eleven horses and twenty-nine sheep. The hay crop last year was sufficient to feed all the stock mentioned above, and 140 tons for the market. This year, Mr. Scott thought the hay crop would be reduced one-half. The Indian corn crop last year was 1000 bushels of ears. Some years 1800 bushels have been raised. He is milking twenty cows this summer, and making butter; milks and turns out before six in the morning, and milks at six at night. The stock is pure Short-horn. A fine pair of oxen near the barn, that had not been yoked, would weigh nearly 3000 pounds.

This farm appeared to us as we suppose many of the estates in England would from descriptions of them which we have read. The fields are large, rich and enclosed with substantial fences, and most of the roads through the farm are lined with fine forest trees. A specialty of Col. PIERCE has been to plant forest trees over much of the farm, even if they crowded the cultivated crops a little, and to preserve all trees with scrupulous care.

We had the pleasure of making two more calls within the limits of Portsmouth, upon Messrs. CHAS. E. MAIN and EZRA A. WINCHESTER, firm of Main & Winchester, Harness Makers in the California trade. One of them is usually in San Francisco. But here, in the beautiful country, made still more beautiful by the means and the good taste which they possess, their families reside; and here they, even, return as the place where

their affections linger, and they find repose from the cares and turmoil of a busy world. I had not time to go over their farms. Mr. Main has 1200 apple trees in one orchard. The soil is a sandy loam, which he dresses with large quantities of sea weed and muck. He has erected a fine barn, has a good garden, and is annually making permanent improvements.

Mr. WINCHESTER we found making a fine avenue to his buildings. He is greatly improving the soil by the use of fish heads and muck, and is showing to neighboring farmers what an acre is capable of producing when under high culture. Our time was too short to allow us to go over the farms of either of these gentlemen, but long enough to be very pleasantly received and entertained by them.

BEET SUGAR AT THE WEST.

Some six or eight years ago some New York gentlemen visited Europe to learn the process of making sugar from beets and to obtain the necessary machinery and skilled labor to conduct the business on a large scale at Chatsworth, Ill. Some 2300 acres of choice prairie land was purchased and preparations were made which promised to be very successful. In 1866 it was said that the company alone raised beets enough to have produced 450,000 pounds of refined sugar. But for reasons with which we are not familiar, the enterprise has proved unsuccessful, although it was claimed that experiments proved the beets raised in Illinois were as rich in saccharine matter as those of Europe.

We learn by the Madison, Wis., *Farmer* that the Chatsworth factory is to be removed to Freeport, Wis., where the soil is believed to be well adapted to this crop, and where there is an abundance of good water, direct railroad communication, &c. The *Western Farmer* says:—

Work is now in active progress, although it is not expected the buildings and machinery will be ready for operation before the fall of 1872. The citizens of Freeport gave a bonus of \$3000 to secure the location of the Factory within one mile of the city limits. Mr. Rosentiel made arrangements with the former company, or rather with Mr. Bunn the chief owner, by which he is to furnish land for and erect buildings to the value of \$10,000, Mr. Bunn furnishing the machinery, valued at an equal amount.

The location chosen is on Mr. Rosentiel's fine farm, near the Illinois Central Railroad—a side track being now laid. There will be three main buildings besides the office and other small structures. The largest one will be 191 by 68 feet, and 25 feet high—two stories; the second will be 126 by 59 feet, and same height; the third 129 by 59 feet, and one story high. Under half of the large building is a cellar. The foundations are of very good stone, quarried on the farm; the main buildings will be of brick. Nine steam engines will be used. The water, except for drinking, &c., will be

drawn from a creek through a seven inch pipe, 54 rods long.

It is intended to work 50 tons of beets per day, when at full work. From 600 to 800 acres are expected to be devoted to beets. Mr. Rosentiel will devote 150 or more acres of his own farm to this crop. He is entirely confident of success, and this confidence seems to be shared in by Mr. Bunn.

An experiment involving what was then thought to be a large capital was made in Oakland County, Mich., about 1837, which proved a failure. And in 1838-39 the Northampton Beet-sugar Company of Massachusetts, was formed, and received a silver medal from the Charitable Mechanics Association, and a premium of one hundred dollars from the Massachusetts Society for the Promotion of Agriculture, for specimens of beet-sugar exhibited by David Lee Child. And we presume that other unsuccessful attempts have been made to manufacture sugar from beets in this country. But we understand there is a factory in Sauk County, Wis., managed by Germans, that has been reasonably successful from the beginning; and we are not by any means disposed to despair of the final success of this branch of industry on American soil.

For the New England Farmer.

HOBBIES.—CURING GRASS.

I suppose I shall make myself liable to be called an old fogey for the remarks I am about to make; but, nevertheless, I feel disposed to have my say, at the risk of being called one.

The most prominent hobby, just now, among farmers is that of *curing* hay, as the *drying* of it is an inadmissible term. For as long a time as my memory runneth backward, and that is almost half a century, the theory and practice among most farmers has been to use salt, more or less, according to the ideas of the one using it. I always used it but sparingly, as I never felt satisfied that it really was of much use in preserving hay. If it was not properly dried in the field, I put on salt because I thought that it might keep down the heat and also prevent the dust that is so apt to rise from imperfectly cured hay.

But the use of salt on hay soon got to be a hobby. Grass could be cut, just wilted, put in the mow, a good lot of salt applied, and all was right. I never tried that way, because I always found that the hay that did not generate heat enough to melt the salt came out the sweetest and best.

By and by, somebody found out that salt was not good for cattle, and lime was the next hobby; but this had but a short run.

Now the theory is, cut grass after the dew is off, just wilt it, cart it in, put nothing on it, shut up your barn so as to exclude all the air, or at least as much as possible, and though you may have a foot in depth all over the mow that will be rotten, yet the rest of it will be so much better, that it will make up for all the loss.

The advocates of this plan claim that close packing and exclusion of the air is what is necessary. If this be the case, what would be the effect of pressing and baling at once? What a deal of trouble would a certain celebrated speaker and writer on agricultural topics have saved himself, who, after having put into his barn some thirty or forty tons of such undried hay, found in a few days that the steam was coming out of every crack and cranny in his barn, and became so frightened that he had it all taken out and dried and put back again at an expense probably greater than that of putting it in the first time, had he been assured that it would have come out right in the end.

I notice this year that a difference of opinion has sprung up among the advocates of this manner of curing grass. Some say that it need not be packed close; that the air should not be excluded; that the barn need not be shut up; and that you may avoid having so much rotten hay on the top by admitting some air. Would anybody have arrived at these conclusions if the close packing system had proved to be as successful as has been claimed?

Since writing the above I have been reading the remarks of a Doctor P. Simonton, of Maine, on the subject of curing hay, in which he refers to what he calls the old method, and which he said originated in the days of wooden pitchforks, when the hay was raked up and spread out over and over again, till all the seed dropped out, the leaves fell off, and all the fragrant aroma and nutrient juices were gone forever. This way of curing it he very justly calls the poorest of all ways, and then goes on to say that "from all we can see and learn it is the one still most common in practice."

He then refers to another method so nearly like the editorial on the subject published in the *FARMER* of June 24, which I think a most excellent article, that it needs no further notice.

He then refers to what he calls the third method,—that in which the grass is just wilted and put in and allowed to heat and cure in the mow. Though he does not profess to have any practical experience himself, he refers to a statement of a Mr. Larrabee, of Searsport, to confirm the truth of his theory. Mr. Larrabee says that he mowed two tons of grass after the dew was off, and put it on a scaffold in his barn, and that was all he did to it. "It went through a process of heat and sweating which caused the upper part, some ten or twelve inches thick, to spoil for eating purposes. All below this proved excellent hay. Some of the leaves turned black, but nearly all of the useful parts which are lost by the drying method being saved, it was very rich in fodder and was much better relished by the stock than common dried hay."

Now it seems to me that Doctor S. was very unfortunate in his selection of a case to illustrate the truth of his theory. If these two

tons of hay had been put on a scaffold twelve feet square, this rotten layer would measure 144 cubic feet. Allowing 600 cubic feet for a ton, it would weigh 333 pounds. This at \$35 per ton would come to \$5.72. Now if a mow of ten tons is going to spoil in the same proportion, it will be 1660 pounds and a fraction, making \$25.05, to say nothing of the extra labor to handle over water enough to rot this amount of hay. This amount of money would, in my opinion, richly pay for the extra work of drying the hay according to my idea of curing hay.

One of the objections in my mind to the new way is the necessity of handling grass with so great an amount of water in it. It is heavy stuff to pitch and cart. I think it much better to evaporate this water in the field than to take it to the barn to go through the process there.

I do not speak unadvisedly on this matter. I find by actual trial that one hundred pounds of grass that had laid seven hours in the sun on a good hay day, and was afterwards treated in every other way as was the balance of the lot, lost in drying, forty-six pounds, leaving fifty-four pounds of dry hay in such a state as I would be willing to mow away ten or fifteen tons together. Now as I cut usually about 100 tons of hay, cured as I cure it, I should be obliged on this new plan to handle an additional forty-six tons of water, which it seems to me is not very economical, as in addition to the extra labor, the evaporation of this large amount of water would greatly injure the building.

Then again, I keep a stock of thirty-five head of cattle and horses, and they are stalled at night. It seems to me that it would be subjecting them to an uncomfortable vapor bath to have the barn shut up tight all through the hot weather while the grass is going through the sweating process.

Once more, my barn contains 3600 square feet of scaffold and mow room. Now if I have got to have one foot of rotten hay all over the surface of these mows, it would equal six tons of dry hay, and at \$35 per ton, would be worth \$210; the price to be paid for getting hay on the new principle, to say nothing of the unpleasant smell that would arise from such a mass of rotting vegetable matter shut up in a tight barn.

Another objection is, that it is very inconvenient for me to fill a mow, in one or two days, of the same or nearly the same quality, which seems to be a requisite of the reformed practice.

The farm under my care is divided into some twenty lots, containing in all about eighty acres. Of course I have different kinds of hay,—some horse hay; some for the cows, some for the oxen, and some for the market. I make such a division as I am able in the field, and as I generally make clean work as I go, it is not often that I can get enough of

one kind of hay to fill a mow in one or two days; and should a wet day intervene, or if you don't get full Saturday night, you are all ashore; as it will not do to let a mow remain over two days without filling.

Once more, I wish some chemist would subject some of the hay to a chemical analysis and tell us whether the starch and sugar undergoes any change in going through the sweating process.

Thus, Mr. Editor, I have given, in my imperfect way, my views of this new method of curing grass. If you think they are worth anything, use them; if not, consign them to the waste basket.

J. L. HUBBARD.

Peabody, Mass., July 14, 1871.

For the New England Farmer.

OUT-DOOR GARDENING.

June played at "hide-and-seek" with us, in these northern latitudes, granting us only a glimpse of her sunny skies and balmy airs, but in these summer months the sun shines, with an almost overpowering warmth; and all nature rejoices in its rays. The "heated term" is a necessity, if we would enjoy the rich and rare flowers and delicious vegetables of the summer months.

Our roses have been perfectly exquisite! Never were roses seen so rich and rare in this "north countree!" A moss rose stands over six feet high; and as we write, is perfectly covered with most lovely roses and buds. The latter, with their mossy veil, are very beautiful, and the full blown roses are not without their charm. The plant had been cultivated several years, but not until the "Grafton Mineral Fertilizer" was applied to its roots did it make any headway; then it grew wonderfully, and in the last two years has grown four feet. Every spring it is cut back from a foot to eighteen inches, and the puny branches thinned out; then it gathers up fresh strength, and puts forth its buds and leaves in renewed beauty. One hundred and twenty-five roses have bloomed upon it this season.

All lovers of roses should obtain some of this mineral powder which gives renewed life to all old rose bushes; and increases the vigor and strength of the new plants. Sixteen new Hybrid Perpetual and Tea Roses adorn our garden this summer, and they will soon bloom again in beauty and glory. They were all cut back after blooming in June, and now their promise is great.

Roses require close pruning to blossom in perfection; it seems very hard to cut off the tall branches—but the finest blossoms are always produced on the stalks thrown up freshly from the roots. Look at your pet roses, my fair friends, and learn this truth, and profit by it.

Cut down the old wood within six or ten inches of the ground, and see how they will repay you for the sacrifice of their branches.

Not a slug, or a rose bug, has dared to touch a leaf or bud of one of our darlings. Early in the season the mineral powder referred to above, was plentifully scattered over all the leaves. Two more applications were made for fear the devastating foe might make its appearance, and their foliage is as beautiful as in the first dawn of creation. The culture of the rose has been neglected of late, on account of the ravages of this insect, but it can be successfully removed with very little trouble; besides the use of the "Fertilizer" is very beneficial to the growth of the plant.

There is not a flower in the garden that possesses more charms than the rose; still, the pink also commands much admiration. These flowers were first brought into notice in 1270, by Louis the Pious. He made a crusade to Tunis, and was delighted with the delicious fragrance of the pink. Some of the plants were taken home and cultivated with great attention. It was called *Tanica* at first, from the spot where it was discovered, but on account of its spicy fragrance it was named *Caryophyllus*. Since that the pink has become domesticated in the south of France and Italy.

King Rene of Anjou was a devoted admirer of the flower, and he cultivated many varieties of it; he considered it valuable as a medicine. Not until 1597 was it grown in England, and it was introduced then by the Poles. We are indebted to the Spaniards for its introduction into this country.

In 1700 the Dutch took it up and cultivated it with such care that they produced over 300 varieties. A perfect flower must be a fine color, with an unbroken calyx—if that bursts open its beauty is greatly injured. Carnations and Picotees are both *indispensables*. They can be easily raised from cuttings or layers; and the soil which grows them to the best advantage, is a mixture of loam, black leaf mould, well-decayed stable manure, and a little sand. These flowers are often styled florists' flowers. This term is usually applied to those plants that have been improved in form, color, or size, or in all three combined. They are, in truth, the productions of art, having been raised by high cultivation and patient care from insignificant flowers.

Any one who will compare a single and a double pink, will be struck with the great difference between the same flower in a natural and artificial state. Florists' flowers are one of the greatest proofs of man's skill and ingenuity which the vegetable kingdom can exhibit. The taste for Florists' Flowers in England is supposed to have been brought over from Flanders, when its citizens fled from the persecutions of their rulers.

The Flemish weavers brought with them roses, carnations and gilliflowers as early as 1567, and the rare gardens in many parts of England are indebted for many of their gems to these manufacturers.

The French refugees introduced the fashion

into Scotland, and wherever they settled beautiful flowers are now found.

Since the beginning of this century, however, great improvements have been made in floriculture, and our florists vie with those on the Continent. All annuals have been greatly increased in beauty. Compare the tiny crimson *Petunia*, which was cultivated over thirty years ago, with those now growing in many a garden, and mark the difference.

In our garden are growing "*Buchanan's Hybrids*," which are rarely beautiful; striped like a banner, blotched like a balsam, double as a rose, and of all the shades of pink, crimson, purple and white; forming of themselves a bed of flowers that quite equals the plot of verbenas near by.

The *Petunia* can easily be propagated by cuttings, at almost any season, by inserting them around the edge of a pot filled with a light, sandy soil, which should be kept perfectly wet. But the best season for this operation is in August or September, as then they will strike root more vigorously and be ready to bloom in the window garden. These flowers love warmth, but do not like cold winds, nor the heat of the noonday sun when it scorches.

Equal parts of well rotted manure, sand, and good garden loam will make the best compost to grow them to perfection. They are easily raised from seed; and if very fine varieties are procured one season, the next spring they will sow themselves and you will have thousands of plants. Last summer we saw a bordering of the rarest *Petunias*, which extended entirely around a vegetable garden. It was a very lovely sight, and this last spring a multitude of plants sprung up all over the beds. Literally, thousands of plants were given away. Those of our readers who have not seen the new varieties of this common flower can form no idea of its beauty. The double varieties are nearly as fragrant as the *Carnation*, and are quite as perfectly striped, and blotched, and many of them equal the delicate traceries of the *Salpiglossis*.

Double *Zinnias* are now as effective a flower as one can raise; their perfectly cupped petals have quite eclipsed those of the *Dahlia*. The white varieties are now an established fact, and are very beautiful; they are of a paper whiteness, and each petal is perfectly formed. These plants should be pruned, and pinched in, to grow in perfection, and not allowed to straggle as they please. A well grown plant, well-trained and pruned, is as fine an object as the flower beds can exhibit. This season, striped *Zinnias* are the "novelty;" beautiful pink leaves will have a narrow stripe of white down the centre of each, making a very lovely flower.

Now is the season for extracting perfume from the sweet flowers. Gather quantities of rose leaves, sweet geraniums, heliotrope blossoms, carnations, sweet peas, and any fra-

grant flowers. Place them in a small earthen jar, and strew salt plentifully between the layers of leaves and blossoms. Set the jar in the cellar, tightly covered up and let it stand for six or seven weeks. Then uncover it, and strain out through thin muslin all the liquid that is in it, squeezing the flowers thoroughly, after the first straining.

Bottle the small quantity of fluid obtained, and set in the sun for four weeks, letting it remain out all night in the dew. It will contain the essential oil of the flowers, and three or four drops of it will perfume a whole quart of water or alcohol.

The backward season has prevented the *Zonale* geraniums offered to S. A. R. from making rapid growth; so she will be obliged to wait for the cuttings until September. We do not keep any plants or cuttings for sale; but when we know of some one person who has a great affection for them, we are glad to give them away. J. B. W. shall have some at the same time that the others are sent. We have some thirty-eight *Zonale* and *Tri-colored* geraniums coming forward, but all the plants are small, and will not bear cutting back just at present. They will be sent "without money and without price," but from the feeling that "makes us all akin." S. O. J.

COTSWOLD SHEEP.—Messrs. Jones & Clark, of Barre, Vt., write to the *Mirror and Farmer* that their *Cotswold* lambs were dropped the last of March and first of April, some of them weighing 12½ pounds; the 20th of June they weighed 75 pounds. Yearling ewes, this spring, had wool 12 inches long, and crosses with *Merinos* showed a length of staple 7 inches. They sold a *Cotswold* lamb last fall to one of their neighbors to cross with fine wools, and he has already, at this time of year, been offered \$4 per head for his lambs for mutton. These lambs were dropped the first of April.

So much has been said against crosses with fine wools that we have experimented until we have become satisfied that with the *right care and blood* for a buck it will prove a perfect success for mutton, also for wool, as it is fine and of good length. Our ewes averaged six pounds of washed wool; have sent it to Boston for combing. The buck that sired our lambs sheared 15½ pounds and weighs over 300 pounds.

FATTENING CATTLE ON GRASS.—In Great Britain and Ireland the wealthiest and most independent farmers are those who occupy large farms of good grass land and who fatten and sell annually large numbers of cattle. This class of farmers are called *graziers*; they keep very little of the land in tillage, do not winter large numbers of cattle, but buy two or three years old heifers and steers in the spring, keep them on choice pasture during

the summer and autumn, and sell before the animals begin to lose flesh late in the fall. The vast herds of Texan cattle are sometimes managed in a similar way, being purchased when in a low condition and driven on the rich and succulent prairie grass until they have become nearly fat. Farmers who have good grass land should devote at least a portion of it to fattening stock; good two or three year old heifers and steers kept on a rich pasture for six months would probably pay better than inferior tillage. The money would all come together, and the cost of transportation, compared with that of the cereals, would be trifling. Every farmer should fatten all his young stock that are not required for the dairy or the yoke. Selling stock of any kind before they are properly made up for the market is very bad management, and a great deal of money is lost by farmers every year in this way.—*Western Rural*.

WHY CATTLE NEED SALT.—A correspondent wishes the reason why cattle need salt. It is because phosphate of soda must be furnished to the blood, whereas it is phosphate of potash that exists in grains and grasses grown on soils deficient, as most soils are, in saline or sodic compound. When salt is taken into the animal system it is partially decomposed. Some of its chlorine unites with the potassium of the potash while the liberated sodium is oxidized to form soda, and this combines with the phosphoric acid from the potash phosphate to form phosphate of soda. Soda also exists in milk. It is this which gives the fluid its slightly alkaline taste when first drawn. If this be absent, as when cattle are not supplied in some way with salt, the milk is unwholesome. Cattle are apt to prefer grass grown on lands top-dressed with two or three hundred weight of salt to the acre, for the reason that the salt renders the grass sweeter, more tender and more succulent. The weight of grass grown on salted land is, however, likely to be diminished in proportion, as rankness of growth is prevented.—*J. A. Whitney, in Rural New Yorker*.

AGRICULTURAL ITEMS.

—The effete aristocracy of Old England can yet read a lesson to the matrons of New England. The first twenty-four names in the Peerage show families of 272 children, or more than eleven to each bloated aristocrat.

—An Illinois paper recently advertised:—"Wanted, a good rain; one that understands the business thoroughly." We are ready to give the one that worked all day for us on the 18th of June, a first rate recommendation for the situation.

—The St. Louis *Rural World* gives an account of the death of a son of Mr. Schofield, of Fall Creek, Ind., by inhaling Paris green which he was prepar-

ing for application to potato vines. He died in a few hours after inhaling the poison.

—The annual cash income of the Cornell University is \$125,000. Six new Professors are to be added. The Professorship of Agriculture is filled by C. H. McCandless, lately Assistant-superintendent of the Royal Agricultural College at Glasneven, Ireland. Other eminent European teachers will probably be secured. The Institution is crowded with students.

—J. L. Henry, a practicing physician at Boyd Station, Ky., writes to the *Country Gentleman* that by doctoring his own horse he has learned that the following is as nearly an infallible remedy for bots as any used. Take one Stricknos Nux Vomica Bean, cut in pieces, make one quart of tea; give one pint; if not relieved in from thirty to sixty minutes, give the other pint.

—A recent writer states that he effectually disposed of certain weeds in the lawn, among them horseradish, "by cutting with a spade two or three inches below the crowns, and pouring on the part left in the ground a little kerosene. The sod was dropped back, and the horseradish failed again to put in an appearance. Any troublesome weeds can easily be killed in this way without injuring the grass."

—A correspondent of the *Country Gentleman* says if copperas and saltpetre water are used around pear trees, the trees will show the effects in a large yield of fruit. He tried this on a Bartlett pear tree that had yielded no fruit for two years previous; that very year it yielded 155 large, fine pears, and the following year 250 large, fine ones, and it is still doing finely. If pear trees want iron which most soils are deficient in, sulphate of iron, or copperas, is a good way to supply it.

—A writer in the *Toronto Globe* says that for the past six years as soon as grass can be cut he spreads a quantity of newly cut grass under his gooseberry bushes and lets it remain all summer. That treatment combined with very high cultivation and close pruning, has been a complete preventive of mildew for the last six years. He has had every year for that time splendid crops of large sound berries; some of them nearly as large as small plums.

—Ducks are said to do good service in exterminating the potato bug. A gentleman of Piqua, Ohio, put a pair of Muscovies into his potato patch which was literally swarming with bugs. The ducks ate the bugs with such avidity that the latter were soon exterminated, and the patch has not since been troubled with them. So say the papers; and we hope it is true, but as all accounts that we have seen agree that poultry will not touch a Colorado potato bug, we fear there is a mistake somewhere in the statement.

—A correspondent of the New Orleans *Rural Southland* says, "the rains during the whole spring have been almost constant, with every now and

then a terrific flood. The consequence is our crop prospects are gloomy enough. Our cotton has been one-third, at least, destroyed by the rush of waters and beating rains. And now the grass and weeds are getting the mastery, it being impossible to plough or even, in many places on the low lands, to walk through the fields without bogging a foot in the soft, mushy land." He closes with the remark "still raining!"

—A correspondent of the *Southland* objects to the introduction of the Chinese on the ground that they are a race of people whose moral principles are not only dangerous to society, but would tend to the multiplicity of infinite social disorder. Much of their doings and habits will not admit of publication, and would not long be permitted to exist in any civilized community. It is nonsense to talk about the Chinese living on cheap rations and low wages. When in "Rome they will soon do as Romans do."

COLORADO POTATO BEEBLE IN MASSACHUSETTS.—Hon. M. P. Wilder informs us that this long dreaded scourge of the potato field has been found in the town of Worcester, whither it probably either stole a ride on the cars of the Western railroad, or was introduced by some carpet-bagger. We understood Mr. Wilder that the State Board of Agriculture were contemplating the adoption of some action with a view to "stamping out" the pest. We are not informed as to the extent of the foothold the insect has secured, but we should certainly advise a most earnest endeavor by hand picking, by poison, by fire, and by every means in their power, to check its further extension in our State.

TALL GRASS.—We have received from Mr. E. Richardson, of Fitchburg, Mass., a bundle of herbage from five feet to six feet two inches high, with some blue-joint or fowl meadow and witch grass nearly as tall. It grew on a river interval, on to which the stream, in the great flood of 1869, carried a covering of earth, and from which it washed away an acre or two to enrich some other meadow. Unfortunately we have mislaid the note accompanying the grass, and therefore are unable to make a fuller statement of the particulars of the mammoth crop of which we have a specimen.

A FARMER'S PILE DRIVER.—A correspondent of the *Toronto Globe* saw a farmer at the West driving fence posts with a home-made pile-driver. The ram was the butt of an oak log, six feet long and sixteen inches in diameter and was banded at the lower end by an iron hoop. Grooves were cut in it on each side so as to admit of guides. The frame in which the ram was raised so as to fall about twelve feet, was of scantling only 2x6 and 3x3 inches, with the exception of the sills, which were stronger, and made of hard wood, to facilitate moving about—an operation which was performed

by the same oxen that raised the ram. About three blows drove the post nearly four feet into the earth, and almost all went quite straight. On the whole, it was considered a great success, and saved an immense deal of labor.

EXTRACTS AND REPLIES.

SUMMER CARE OF STOCK.

Our farm stock is now at pasture, and I have thought that some suggestions from my experience with cattle while at pasture, might be acceptable to some of your readers. Much has been written about the winter care of stock, and but little of its summer management.

When I began farming, nearly forty years since, I had but one cow and a yoke of oxen. I had one lot only for their pasture. Afterwards I made an addition to my farm and to my stock also; and then I thought I would make different arrangements in regard to pasturing. I went to work and divided my pasture into several small lots, by fences.

TRIED CHANGING PASTURES.

I thought this would be an improvement, for several reasons. I could turn in to the low land coarse feed first, believing stock would eat it better when it was tender, and I should also save my better feed until it got well started, by which the good feed would be better all summer.

I had as many as five separate pastures. I could let down my bars at the barnyard, and send the stock into whichever lot I desired. I generally changed them from one lot to another weekly. This allowed each lot a growth of four weeks. Of course the feed would get a good start, generally quite rank. But I soon found that this plan did not work well. My cattle having the fresh feed of a new lot every week became uneasy after the first few days, and if I went near them they would run and bellow for a new lot; for they remembered that I had been in the habit of letting down the bars once a week and turning them into new feed. On noticing this habit, I adopted the policy of letting down the bars to a new lot when the cattle could not see me. By this means they became more quiet.

I think my pastures did produce rather more feed, managed in this way, but I found there were disadvantages attending its practical operation. After four week's growth the feed would be rank and abundant, and on being turned into a fresh lot the cattle would eat too much, and so overload their stomachs as to cause scouring. As a preventive and remedy for this I commenced feeding them old dry hay. They took it with a relish and I thought it was very beneficial to them.

After a few year's experience in managing stock in this way, and in keeping in repair the fences necessary to divide my pasture into five lots, I abandoned the plan, removed the division fences and for several years past have kept all my cattle in one lot.

GONE BACK TO ONE PASTURE.

My pasture ground embraces a variety of soils, from the sandy knoll, where the sweetest grasses grow, to the muck-bed, where the vegetation is coarse and rank. Enjoying a range of three-fourths of a mile, my cattle can lie in the shade of pine trees over one hundred feet high and ten feet in circumference; or browse the young sapling of a great variety of trees and bushes, which are so thick on about an acre of the pasture that it is almost impenetrable, yet the cattle go through it and seem to enjoy the currying their hides get from the interlocked branches, and the shade the dense foliage affords. In this lot a spring of pure

water gushes from the hill-side which forms a sluggish stream that flows through sand and mud. Here they can drink, or if they choose they can sip from a small pond where frogs peep, turtles crawl, and serpents charm, or they can wait till they come to the yard and quench their thirst from a trough filled with water drawn from a well eighteen feet deep. In the pasture there are stumps on which they can rub their noses, necks and foreheads, and keep their eye-winkers and forelocks in order.

HEALTH OF ANIMALS.

With such a variety of food and drink, of sunshine and shade, of dry soil and wet, of tame and wild grasses, I have never had an animal sicken and die under my management. A few years ago having a cow somehow ailing, I called in an old man who pretended to be a cattle doctor. On examination he said she had got the horn ail and she must have some tobacco steeped and give her the juice. He gave her what he called a dose, I should think nearly a pint. The cow staggered, dropped and died in about ten minutes. So much for my experience with tobacco, which thoroughly satisfied me of its power! If the cow had been let alone, I think she would have got well.

GENTLE TREATMENT OF STOCK—HAY IN SUMMER.

My cattle like my company. When in the pasture they will follow me until I leave the lot; and, as a general thing they come up to the barnyard every night about sunset, and in their way call for a lock of hay. Though I give them all they want, they take but a few mouthfuls, which satisfies them, and I am confident it does them a great deal of good. It keeps their bowels regular, and they thrive well and are happy. They do much better than they did when I changed pastures once a week, for now they have the change of feed every day instead of once a week.

Cattle need kindness, and they pay well for it. I can handle my steers and others as I please. They will come up to me when I am milking and invite me to play with them. I am obliged to scold sometimes to keep them away, but they know nothing about being whipped.

SOILING.

The time I think is not far distant when soiling cattle will be the most profitable where most of the farm can be cultivated. Provide a small lot for them to run in; feed green fodder; save all the manure, and our farms will grow richer; better and larger crops will be raised, and more attention will be given to looking after the cattle in the summer months.

M. L. GOODELL.

South Amherst, Mass., July, 1871.

THE BYFIELD TOWN FARM CROP OF CORN.

I regret to have annoyed your correspondent, Mr. J. L. Hubbard, by crediting him (as it happens by mistake) for the great corn crop on the Byfield Town Farm at one of the Cattle Shows in Salem, Mass., between the years 1843 and 1850. If he will take the trouble to examine the reports of the Fairs of Essex County for the years mentioned, he will find in one of them that I am credited with having raised ninety-two bushels of corn per acre, and the Byfield Ahms-honse farm one hundred and sixteen bushels, to which was awarded the first premium.

If Mr. Hubbard wishes to do as well, he can plough in a heavy dressing of manure, then put a shovelful of old compost in the hill, on good soil that will give him two and a half tons of hay to the acre.

H. POOR.

Long Island, N. Y., July 18, 1871.

REMARKS.—At the risk of getting our head punched by one or both of the parties to this big-

crop controversy, we venture to step in and say that we have been examining the records referred to, and find that, in 1849, Mr. Joshua Foss of Byfield, Mass.,—we saw nothing said of the Ahms-honse—claimed to have raised on one acre of land 205 bushels of ears of corn; equal to 102½ bushels of shelled corn. It was a medium sized eight rowed variety; the rows were three feet apart, hills two and a half feet asunder, with three stalks in a hill.

At the same time Mr. Henry Poor made a statement of a crop of *ninety-three* bushels of shelled corn to an acre—land measured, and amount of yield determined by shelling two bushels of ears. His was a large variety, and he inquired what he should do with the butts of stalks which were so large that he had been advised to sell them as cord wood.

Our correspondent J. H., of Shrewsbury, Mass., who has experimented carefully as to the yield per acre, and finds seventy-five bushels a great crop, says that 200 ears of the large varieties will make a bushel when shelled, but of the smaller varieties 300 or more ears are required. Assuming that of the medium variety raised by Mr. Foss, 250 ears were equal to a bushel of shelled corn, it appears by our figures that each hill of three stalks must have produced 4½ ears, or three good ears for each two stalks. Did they do it?

GARDEN AND ORCHARD.—THE DIFFERENCE.

John's has a noble kitchen garden,
And tuds it too, as well;
It full supplies his wants, and then
Has much to spare, or sell.
Smith "never was much of a hand
To bother with such truck;
And then he can't find a spot of land
But's weeds—has no luck."

John's orchard is a pleasant place,
With thrifty, hand-some trees,
With large and luscious fruits that grace
The bough, and kiss the breeze.
Smith's is a sight to see—and seen
Leaves sadness on the heart;
A scraggly, unkempt, unsightly screen,
With which we're glad to part.

Maline, 1871.

J. W. L.

SOILS FOR MUCK.

I am a constant reader of your paper, and have been much interested in the different communications on muck. From all I have seen and read about it, I have come to the conclusion that it is not so much in the muck as in the soil to which it is applied. If you have a piece of dry, sandy land, muck of any kind will be a great benefit to it,—the more muck the better. But on land that is swampy or wet and heavy it will be of little if any use. Such a soil should have sand carted on to it and ploughed in, and by mixing the two different soils together a great improvement will be effected. I am acquainted with a piece of land in a village that is nothing but muck and bog. A good part of it is cultivated. In the first place sand is carted on and mingled with the surface soil. Here they have as good gardens as there are in the village. Hence I am satisfied that muck should be used on light, sandy soils, especially if it is applied in a crude state. A correspondent in a late number of the FARMER spoke of using it with good results on a gravelly knoll. This also goes to corroborate the

correctness of my theory. But muck in a crude state, or fresh from the bog, will be of little benefit on some kinds of land, while on others it will do much good. Hence the different results of experiments, and consequently different opinions of farmers on the subject. Muck is of little if any use as a manure, but as an absorbent it is valuable. If drawn into the hog yard and left for the hogs to root over and mix with straw and weeds that can be pulled and thrown into the yard, a great deal of manure can be made. c.

Keene, N. H., June 28, 1871.

COLORING BUTTER.

We that have white grass pastures this dry weather cannot make as yellow butter as we wish to, though we give our cows two quarts of corn meal a day. We want to inquire through the FARMER for the best and healthiest coloring. Carrots and squash are not to be had just now, and we are told that annatto is a deadly poison; so what can we use with safety? Will you please give us the definition of annatto from Webster's Unabridged, and oblige, an INQUIRER.

Jaffrey, N. H., July, 1871.

REMARKS.—The definitions of the word annatto, or annatto, annotta, annotta, arnotto, arnatta, arnotta, &c., as it is variously written, as given by Webster and Worcester, are nearly the same; Worcester cites Ure for authority, and Webster, McCulloch and London. Webster's definition is, "A species of red or yellowish-red dyeing material prepared from the seeds of a tree (*Bixa orellana*) belonging to the tropical regions of America."

Some dairymen, we know, have objected to the use of annatto, but we were not aware that any body considered the pure article at all poisonous. Mr. O. S. Bliss, of Georgia, Vt., Secretary of the Vermont Dairymen's Association, says "there cannot be any possible objection to its use. It is a purely vegetable extract, and the Brazilians, who manufacture it, make use of it to tint very many of the most delicate and luxurious dishes served at their repasts. We have a friend who has travelled extensively in South America, and who is acquainted with its nature and the process of manufacturing it. He speaks of it as analogous to our butter in some respects, one of which is that the really pure article is of a comparatively imperishable or self-preserving nature, and that it imparts to milk, butter and cheese, in some degree, this preservative principle, while the impure grades, like the less pure grades of butter, are lacking in this principle, or rather that they have within themselves germs or spores of putrefaction and decay, which, after a longer or shorter time, grow and spread, producing injurious results in the mass. There are very low grades which are used for mechanical and manufacturing purposes only. From what we can learn from various reliable sources, there is not the least difficulty about getting a good article of annatto if the purchaser is willing to pay for it, and makes application for it to some well-established regular dealer of good reputation. It is said that there is very great difficulty in distinguishing the better from the medium grades, and that the most prudent houses rely mainly upon the

reputation of certain brands, and the character of the parties from whom they make their purchases.

Many persons affect to be very averse to the use of colored butter, but we have never seen one yet who does not like good, rich-looking yellow butter better than a poor, lardy, white article, and would not eat a nicely colored article much more satisfactorily than the other, provided, of course, that he does not know that it is colored; and the smartest of the class are unable to distinguish the colored from natural butter of the same shade of color. It is manifestly better policy for the producer to conform to the public taste in this respect than to attempt to educate it."

COLORADO POTATO BUG.

The Colorado bug that destroys potatoes, when once seen will be remembered. As we have nothing of the kind to compare them with in this section, I will try to describe them so that all can recognize them at first sight. They are a round, oblong bug a little smaller than a yellow-bird's egg; both ends are nearly alike, save a little head on one end from which the *ten stripes* start and run lengthwise of the body. These stripes resemble those of the little common potato bug, in color. They are a very mean looking bug, and decidedly the filthiest pest I ever saw of the bug or worm order. When they come from the ground they are of a bright orange color, not unlike the little crabs often found in oysters. Some papers are recommending poultry for their extermination. Poultry will not eat them, as they are very poisonous even to those birds whose food consists of beetles. One bug will kill a bird of that species in a few hours. As they are very voracious eaters, they void a great deal; hence they are very filthy. They will crawl all about the house in quest of food, and they leave their mark on the carpet if you chance to step on one. They are not confined to the potato wholly for a living. The tomato and all of the night-shade family and most of the tender shrubbery about the house and flower-garden furnish them with a living. The only remedy known West is to crush, burn or poison them by sifting Paris green on the vines. To burn them they gather them by holding a pan under the vines and shaking them into it. T. B.

Addison County, Vt., July, 1871.

REMARKS.—From recent statements in western papers it appears that poultry do sometimes eat these insects with impunity and apparent relish, though at first they generally refuse to do so. It would seem also that extravagant statements have been made as to their poisonous nature.

IRRIGATION BY DAM FLOWING.

Some time last year, an address of Mr. M. J. Harvey, of Epping, N. H., was published in the FARMER, recounting some of the means by which farming could be made to pay. Among these, was one which a gentleman present criticised, and Mr. Harvey explained himself. It was in regard to the benefit of irrigation, by throwing on water with a dam. The water was to be thrown on in early spring. It stayed on only two or three weeks, was then drawn off, and the ground was left in a more fertile condition, in consequence, I suppose, of the sediment carried on and left by the water, or by fertilizing matter which the water held in a state of solution. That water directly from a spring near by, or water filled with muddy matter, should fertilize somewhat, I have no doubt. In my case I have a brook where irrigation by ditching would

be difficult, but the water could be dammed and thrown on with small expense. There is no spring within a hundred rods. The brook is high in early spring, the water from hill sides around coming in large quantities from snow and rain, and also to considerable extent from the spring; but by the first of June, it is usually dry where I wish to irrigate. I have consulted many practical farmers, but none have yet advised me to flood the soil. Some say the land will be made sour. Mr. Harvey says the ground must be left bare in the winter to freeze, or the English grasses will die out, and poorer grasses replace them. Some of the soil is clayey, but most of it is a good loam, of rather a sandy nature below. It is a soil which has received from surrounding fields, but does not give off to others, in consequence of its position.

If any one can give me information in regard to the effect of such irrigation, they would oblige. Perhaps Mr. Harvey can give a chapter from personal experience.

Franklin, Mass., July, 1871.

REMARKS.—We regard the inquiry of our correspondent of much importance. The different effects of water flowing over land and of water standing upon it are better known than are the causes of these different results. But such flowage is not generally included in the term irrigation.

GRASS SEEDS.

An editorial in the FARMER, some time ago, recommended the sowing of a greater variety of grass seed. I have usually sowed ten pounds clover, one bushel redtop, and one peck herdsgrass. How shall I change this, or what add, to make a good variety for a common loamy soil? How would the following recipe work?

Three pecks redtop.

One bushel orchard grass.

One peck herdsgrass.

Please answer soon, as I have three acres to sow down, which I intend to do early, with grass alone.

Franklin, Mass., July, 1871.

REMARKS.—Add the clover to your formula, and you will have an excellent variety. We do not yet sufficiently appreciate the value of orchard grass as one of our fodder crops.

PACKING NEW HAY WITH OLD MEADOW HAY.

I have about six tons of meadow hay of fair quality, but by next winter it will not be as good as it is now, and I wish to make it available if possible. I have about three acres of quite heavy clover. Now will it be advisable for me to lay a course of meadow hay, say twelve inches deep, then a course of fresh cut clover, same thickness, and so on to the end?

I think I saw something to this effect in your paper, but cannot now find it. I don't wish to lose or injure my clover, but somebody has said the fresh clover would impart its sweet fragrance to the old hay and cattle would relish the whole. What do you think of it? Would one foot in depth for the courses be too thick? Would it be well to cure it in part, or lay it up green, as it is cut? &c.

A SUBSCRIBER.

Worcester, R. I., July 20, 1871.

REMARKS.—We have had no experience in packing down clover with meadow hay. Have packed straw with hay, with good results. We should have no hesitation in packing the two together as you propose,—making the layers about one foot thick. Should advise curing the clover, but as far

as possible in the cock, and handle it carefully while making it and packing it with the hay. It will be a poor time to indulge in doubtful experiments, in the present scarcity of good fodder.

WITCH GRASS.—RYE GRASS (?)

As the refreshing and much needed rain has cut short our work in the hay field, I will spend a little time in seeking light on a dark green subject. Enclosed you will find a stalk of grass which I pulled up to-day, in front of one of our stores, where I found it grown in great luxuriance. It was just in bloom and both stalk and leaves seem very tender as though they would make excellent fodder. Some said it was witch grass, and some gave it other names. So I determined to inquire of the Editor. If it is witch grass, it is its first advent into these parts.

W. I. SIMONDS.

Rosbury, Vt., July 18, 1871.

REMARKS.—We think it is not witch grass. The leaves are too narrow, the head too loose, the bristle, or beard, or awn too long. You should have sent more of the root, as this is an important characteristic of the *Triticum repens*, with its numerous aliases. We think it is one of the Rye grasses.

COAL ASHES.

In your reply to my questions in regard to the value of coal ashes, in the FARMER of July 15, you speak of using them on your dryest soils. Now my principal attention for the next two years will be directed to the cultivation and fertilizing of lowish land, which, though not very wet, is far from being dry. If I use coal ashes in my stables as an absorbent, they will be applied as a top-dressing for grass on this land; and I would ask if they will be beneficial to the grass crop there, the soil being partly of a clayey and partly of a loamy nature; a small part will be irrigated.

F.

REMARKS.—We have no doubt but the coal ashes will be beneficial on the soil you described. Having a choice of soils on which to use them, we should always select the dry ones.

SALT.

The salt subject being up, I have a word to say on it. I use it some for stock, partly of course, but not wholly, because everybody does. When accustomed to eating it, young cattle are not as wild when salted occasionally; and with cows giving milk, I have thought it made the butter "come" easier when they were salted often; but it always lessens the flow of milk for a few milkings. Hence in a dry time when feed is dried up I give salt only after a rain; for in a dry time, if salted, they fail to resume their former flow of milk, although one brother says it increases the flow of milk in his cows. I never had cattle fat better than those that had but very little salt during the entire season. It is a cathartic, and I do not believe that physic and fat go well together.

Addison County, Vt., July, 1871.

T. B.

COPPERAS AND SALTPETRE WATER.

In the FARMER of July 22, I read a little article recommending copperas and saltpetre water for pear trees that failed to bear. Will you give directions for using?

INQUIRER.

July 25, 1871.

REMARKS.—In reply, we have to say that no tests have ever been made by us on pear trees with

these articles. Both are quickeners in the soil, and are excellent for most crops. We are now sprinkling pear trees with copperas water to prevent ravages of the pear slug.

If, however, we were to apply copperas and salt-petre to the soil, under pear trees, we should dissolve one pound of each in four gallons of water, making eight gallons for the two pounds. Sowing the same articles in a powdered form might answer the purpose as well, if the ground were moist. The two pounds would be sufficient for some twenty or thirty trees. Please experiment on other trees with each article by itself, and let us know results.

DEPARTMENT OF AGRICULTURE.

The Monthly Report for July of the Commissioner of Agriculture gives an interesting historical sketch of the origin and progress of this Department.

Up to the year 1836, the patent office business was transacted by a clerk of the Secretary of State. That year it was made a separate bureau, and Hon. Henry Ellsworth was appointed the first Commissioner of Patents. Immediately after his appointment the idea of connecting with the models of the numerous agricultural implements which were collecting in his office a depository of valuable and rare seeds engaged his attention, and without special legal authorization he commenced a system of collecting and distributing such seeds and plants on a small scale.

On the 21st of January, 1839, Hon. Isaac Fletcher, of Vermont, chairman of the Committee on Patents of the House of Representatives, addressed a letter to Commissioner Ellsworth, requesting the communication of information relative to the collection and distribution of seeds and plants; also relative to the practicability of obtaining agricultural statistics. To this letter of inquiry the Commissioner responded on the following day, reciting the action already taken by him to further the cause of agriculture, and assigning many reasons why his previous recommendations should be adopted. In this communication the Commissioner suggested that "arrangements could be made for the exhibition of different kinds of grain, exotic and indigenous, in the new Patent office." In the closing hours of the Twenty-fifth Congress, (act of 3d March, 1839,) the Commissioner was gratified by the passage of an appropriation of \$1000, to be taken from the Patent Office fund, for the purpose of collecting and distributing seeds, prosecuting agricultural investigations, and procuring agricultural statistics. Thus originated the agricultural division of the Patent Office.

In his next report, that for 1840, the Commissioner stated that the foreign ministers and officers of the navy had been requested to aid in procuring valuable seeds, &c., and in his report for 1841, he stated that 30,000 packages of seeds had been distributed, and that measures had been taken to collate the agricultural statistics from the returns of the census of 1840. "The importance of an annual report of the state of the crops in different sections, as a preventive against monopoly, and a good criterion to calculate the state of exchange,"

was commended to the consideration of Congress, and from this suggestion were evolved in time the annual agricultural reports.

Congress made no further appropriation in 1840 or 1841. From 1842 to 1845 an annual appropriation was made. In 1846 it was omitted, and resumed in 1847. In no year up to 1854 did the annual appropriation exceed \$5500, and it was generally below that sum.

But we cannot now follow the writer in his details of the history of the department, and of its reports and other labors, further than to say that Mr. Ellsworth resigned in 1845, and was succeeded by Hon. Edmund Burke, of New Hampshire. In 1849 Mr. Burke retired and was succeeded by Hon. Thomas Ewbank, of New York. In 1852 Mr. Silas Hodges, of Vermont, was appointed Commissioner; in 1853 Hon. Charles Mason, of Iowa, was appointed; who was succeeded in 1857 by Hon. Joseph Holt, of Kentucky; he by William D. Bishop, of Connecticut, in 1859. Hon. Philip F. Thomas, of Maryland, and Hon. Thomas G. Clemson were acting commissioners in 1860. In 1861 S. T. Shurgert, Esq., took the office and held it till May, 1862, when the Department of Agriculture was established.

Under the new organization, Isaac Newton, of Pennsylvania, was appointed first Agricultural Commissioner in 1862. He died in 1867, and was succeeded by Horace Capron, of Illinois, who resigned August 1, 1871, and Hon. Frederick Watts has been commissioned in his stead.

The total expenditures by the Government for the encouragement of agriculture, from the first appropriation of \$1000, in 1839, to the 30th day of June, 1871, exclusive of the cost of printing the agricultural reports, are stated at \$2,019,893. The total cost of the building erected for the use of the Department of Agriculture, furniture included, was \$140,000, and the cost of the conservatory, was about \$25,000.

FARM MACHINERY.—In reply to a young farmer who asks, "Will farm machinery pay at first?" Mr. J. Harris replies as follows, in the *American Agriculturist*:—

I should buy as little machinery as possible. In my experience, with a few exceptions, it costs as much, with ordinary hired help, to do work by machinery as by hand. I asked a farmer who has had considerable experience with machines, if they paid? "If bought with good judgment," he replied, "and used with great care, I think they do." A farmer can lose more by using a broken, one-tined fork, a dull, rusty hoe, a worn-out ax, and a battered-up spade than he can save by using a machine to saw wood or a reaper to cut his grain. A small farmer had better *hire* the work done with a machine than to buy the machine himself.

TO TAKE BRUISES OUT OF FURNITURE.—Sometimes a valuable article of furniture gets a bruise which remains an "eye sore" to persons who like to have everything "neat and in order." From

some experiments made, we think the following process will bring nearly or quite a smooth surface:—

Wet the parts with warm water; double a piece of brown paper five or six times, soak it in the warm water and lay it on the place; apply on that a warm but not hot flatiron till the moisture is evaporated. If the bruises are not gone repeat the process. After two applications the dent or bruise will be raised to the surface. If the bruise be small, merely soak it with warm water, and hold a red hot iron near the surface, keeping the surface continually wet—the bruise will soon disappear.

DEGENERACY OF FARM HORSES.—On copying the substance of a late article in the *FARMER* on this subject, the *Germantown Telegraph* remarks:—

We trust these statements will have due influence in opening the eyes of our agricultural societies in order that they may see clearer the error they have committed and the absolute importance of doing something—doing a great deal—to stop the degeneracy of our working horses and for the improvement of them. Some weeks ago the *Germantown Telegraph* contained an excellent article from a western correspondent, on the Conestoga horse, which has been copied far and near, and we hope with good effect. The Percheron horse, now being introduced, offers the very opportunity desired to set about improving the working horse, and may be regarded as the very animal for the purpose.

A NEW THEORY OF ORCHARD CULTURE.

Mr. Meehan, editor of the *Gardener's Monthly*, who is not only a scientific botanist and horticulturist, but a close and careful observer of nature, says:

Nearly twenty-five years ago, we found that the *root fibres* of trees were only *annual*—like the leaves they died every year. In 1853 we published it as a fact; we have fought it through until we believe it is now accepted as *scientific truth*. They have the same relation to the main roots as the leaves have to the branches except that while the leaves are the preparers of the food—the cooks,—the fibres are the providers—the husbandmen of the cooks. Just as the branches are of use only as supporters of the leaves, which, like the ancient rib of Adam, are formed by morphological laws out of tree bodies; so the main roots are only of benefit in so far as they afford the material out of which fibres are formed, to hold the tree in position, and possibly, in a very small degree, to draw in moisture.

Remembering this, now take up very carefully a young tree, and we find that the fibres are nearly *all on the surface*, and that they decrease in number and importance with every inch of depth. In the largest trees scarcely a fibre will be found one foot from the top; large roots—tap roots—you may and will find, but no root that is of the slightest benefit to the *nutrition of the tree*. How then a tree can be benefited by the destruction of this large army of agricultural laborers, toiling at the

surface to maintain the growing nation thriving in its many industrial occupations above them, we do not understand.

Mr. Meehan therefore advocates the non-culture of the orchard, allowing it to grow up to grass, in preference; though mulching, to prevent the growth of grass, is better.

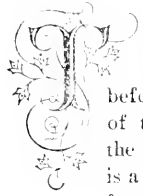
SCRAPING TREES.

The object in scraping the trunks of old apple trees is to remove the scales of dead bark, under which insects hide; but as a general rule there is not much advantage in the operation, as there are hundreds of other hiding places nearly as accessible as the trees. The codling moth, for example, if not hiding under these scales to undergo its transformation, will find fences, boards, grass, weeds, &c., from which the flying insect will readily reach the young apples. Washing the trunks of young trees may assist in promoting a healthy surface bark, in some instances. Soapsuds answers well, and if weak may be used at any time of year; if stronger, or if a solution of potash is used, it should be done when the leaves are off, or the tree not growing. Rough bark may be scraped at any time. We desire it, however, to be distinctly understood that we attach very little importance to these operations; but that *good cultivation*, for promoting a thrifty, healthy growth, is far more important, and will give a healthy bark in a much better manner. Those who wash the stems of their trees, it is true, usually have good orchards; but it is because the same industry and attention which induces them to do it, also leads them to attend to good management generally.—*Country Gentleman*.

THE COST OF RAISING CATTLE NORTH.—I will try and tell you what it costs to raise a steer till he is three years old. First, take a calf at the first of May. Feeding him milk and a little meal for the first six months, \$5; then he wants a pint of meal a day for the first winter—say four bushels, at 75c., about market rates, \$3; three-quarters of a ton of hay at \$10 per ton, \$7.50. The second year, thirty weeks at pasture, 25c. per week, \$7.50; a quart of meal a day for twenty-two weeks, \$3.75; a ton of hay, \$10, beside running to a straw stack. Third year, twenty-six weeks pasturing at 50c. per week, \$13; two tons of hay, \$20; four quarts of meal a day for six months, twenty-four bushels, \$18.

We now have a three-year-old steer at the cost of \$87.75. The steer will now, if he has not been pinched much during the summer, weigh 1,600 pounds or over, and will sell for 6c. to 6 1-2c. a pound—probably the latter price—say \$108, or a profit of \$20. The manure will pay for the care and more too. If I am wrong, will not Mr. J. M. Reeder, or some one that has had more experience, tell me?—*Cor. Rural New Yorker*.

NEW HAMPSHIRE BOARD OF AGRICULTURE.



THROUGH polite attentions of Hon. MOSES HUMPHREY, President of the Board, we have before us the *First Annual Report* of the Board of Agriculture for the State of New Hampshire. It is a handsome volume of 360 pages, from the press of the State Printer,

ORREN C. MOORE. The illustrations of the volume are, the new Culver Hall, just dedicated; a Map of the Agricultural College Farm; some fine engravings of Horses, Cattle of various breeds, Sheep, Swine, Poultry, and model houses for the last two. The only engraving in the way of farm implements is the *Webster Plough*, made and used by DANIEL WEBSTER, and now in the Museum of the Agricultural College, at Hanover. Its length is thirteen feet; beam, nine feet one inch; handles, six feet four inches; distance between handles, two feet ten inches; width of mould-board, twenty inches; width of share sixteen inches.

The Secretary of the Board, who has compiled the transactions, gives a rapid history of the progress of agriculture in the State from the time when its rural interests were represented by the pine tree, and when the pursuits of the people were mainly fishing upon the limited sea coast and in the fresh lakes and streams, and hunting the fur bearing and other animals of the forest. Then a ship upon the stocks was adopted as the emblem of industry, and was incorporated into the seal of the State. Thrift and prosperity succeeded. Roads were cut through forests over which

"Trees, fit for the masts
Of some great admiral,"

were drawn to river landings to be floated to the ocean. This led to inland settlements. Cattle were bred, cereals and vegetables cultivated, and the plough and hoe became industrial emblems. Horses supplemented the ox. Teams increased and traversed the State from inland towns to county shires, to villages on river banks, or to the only seaport the State offered. The Secretary then adds:—

"Until this period in the history of New Hampshire agriculture, no wheels had been turned by our frequent waterfalls, nor had their monotonous murmur been relieved by the music of the spindle or the ring of the hammer. But at length the spirit of enterprise, prompted by the desire of gain,

converted the wilderness, the rocky hill-side and the barren plain about our water-powers on the Merrimack, the Nashua, the Coosicco, the Ashuelot and other rapid streams, into sites of busy towns and thriving cities. The construction of railways followed, or was simultaneous with the erection of mills and machine shops, and both of these agencies operated to open new markets to the husbandman, to create new fields of rural labor and to bring a profit to the tiller of the soil. Market gardening, the growing of fruit, the raising of milk, the breeding of improved stock, are some of the sources of income to the farmer, which have sprung into life at the call of the progressive spirit of the age."

In speaking of the organized agricultural associations of the State, the first of which there is any reliable account, originated as early as 1814, its central point being at the then important town of Chester, or at Exeter, in Rockingham County. In 1817 societies were formed in Cheshire, Hillsborough and Strafford Counties; in Grafton and Coos in 1819-20. The first grant by the Legislature was \$100 to each of the incorporated societies of Rockingham and Cheshire. The following year \$300 to the same, and \$200 to the Hillsborough, Strafford and Grafton, provided they should organize before the meeting of the next Legislature. Other appropriations were made, under certain conditions, but up to the year 1820, only about \$3000 had been expended for the promotion of agriculture by the State.

In 1820, in accordance with the recommendation of Gov. BELL, of Chester, a *State Board of Agriculture* was created. A report from this Board was made and printed in 1822, but no copy of it can now be found. In the year 1870, after the lapse of half a century, a new board was organized, and now consists of the following members:—

Merrimack County.—Moses Humphrey, of Concord.

Belknap County.—Thomas Coggeswell, of Gilmanston.

Hillsborough County.—James O. Adams, of Manchester.

Cheshire County.—Sampson W. Buffum, of Winchester.

Carroll County.—W. H. H. Mason, of Moultonborough.

Grafton County.—Luther B. Haskins, of Lyme.

Strafford County.—H. R. Roberts, of Rollinsford.

Rockingham County.—Joseph F. Lawrence, of Epping.

Coos County.—Nathan R. Perkins, of Jefferson.

Sullivan County.—John S. Walker, of Claremont.

The first meeting of the Board took place at Concord, Aug., 23, 1870, and organized by the choice of Hon. MOSES HUMPHREY, of Concord, as President, and JAMES O. ADAMS, Esq., of Manchester, as Secretary. A general discussion of the objects of the Board

followed, topics for written articles or future discussion were assigned, and delegates were appointed from the Board to attend the county fairs in the State.

At the second meeting of the Board, the delegates reported, arrangements were made for holding a series of public gatherings, and an excellent address to the farmers of New Hampshire was adopted, and afterwards sent all over the State.

The first public meeting under the auspices of the Board, took place at Concord, on the 29th and 30th of Nov., 1870. Farmers from all portions of the State, and from other States, were present, and were welcomed to the city of Concord, and the hospitalities of its citizens, by the mayor, Hon. A. G. JONES. The President then read the act establishing the *Board of Agriculture*, and stated the plans which the Board had in view for promoting this important industrial art, prominent among which was the proposition to hold public meetings in every section of the State, and draw out the cultivators of the soil, themselves, to take an active part in the discussions. This meeting, he said, was the "initia-tory movement, and the programme admits of a wide range of agricultural topics."

The subjects discussed were, "Indian corn; the profit from its cultivation, and its exhausting effects on the soil, compared with other crops." "Manures; the comparative value of commercial, composted and stable manures, and the economy of purchasing fertilizers to compensate for the loss by selling hay and other farm products." "The agricultural advantages of the West and the East compared."

On the second day there was an earnest discussion on "Farmers' Clubs." An essay on "the Drought and the Means of preventing its usual effects," on "Blood Stock," and "on Horses." Discussions on all these topics were full and earnest, and proved that there are plenty of New Hampshire farmers who can intelligently lead public opinion in agricultural matters, whenever opportunity is presented to them.

Other public meetings were held at Milford, Dec. 22; Winchester, Jan. 18; Keene, Jan. 19; Lebanon, Feb. 6; Derry, Feb. 23; Chester, Feb. 24; Meredith, March, 24; Exeter, March 29. Large numbers attended these meetings, and many individuals, for the

first time, took an active part in the discussions.

The report then occupies some sixty-seven pages in returns from towns, replying to a series of questions sent out by the Secretary. These returns show the condition of agriculture in the State, better, perhaps, than anything else. Some of them are quite full; those from Chester, Eaton, and Webster, for instance, are good examples. The report then speaks of "Co-operative organizations,"—the New England Society, New Hampshire State Agricultural Society, the several County Societies and the Agricultural College.

Some of the important papers which have been read, are "The Crops and Drought of 1870," by James O. Adams. "Selling Hay and Buying Manures," by J. F. Lawrence. "Phosphates and their Application," by S. C. Pattee. "Sheep Breeding," by Dr. W. H. H. Mason. "Breeds of Cattle," by O. F. R. Waite. "Neat Stock of New Hampshire," by H. R. Roberts. "Points in Short Horns," by S. M. Buffum. "Underdraining," by Joseph B. Walker. "Draining Hampton Marshes," by J. P. Welch. "Grasses and Forage Plants," by George F. Beede. "Plant Life," by William H. Hills. "Indian Corn," by Simon Brown. "Winter Duties," by James O. Adams. "New Hampshire in comparison with other States," by J. F. Lawrence, and "Farming in New Hampshire," by Levi Bartlett.

A paper upon the "Statistics of Production," throughout the State, one upon "The New Cattle Disease," one upon "Noxious Insects and their Destroyers," one upon "The Birds, the Farmer's Friends," and extracts from letters received, close the volume.

Having attended several meetings of the Board, witnessed the numbers attendant upon them, and the decided interest manifested in their transactions,—we cannot doubt that the trifling cost to the State, as stated by the Secretary, for this report, will be repaid many times over by an increased value of crops the present year. And this increase will spring from better knowledge of improved modes of farming, and the *new life* and *interest* infused into the masses by the influence of these meetings. Their doings were published in the *papers*, repeated everywhere by the persons attending them, and became household words.

They were discussed in the woods while felling the forest, in the taverns, the stores, the blacksmith shop, over the lap-stone, and in the grist and lumber mill, whenever their noise would permit. A good work has been commenced. We trust it may be continued. There is plenty of good land in the State which is available for cultivation. Let that be improved to its highest extent, and numberless acres which are now under partial and unprofitable culture, grow up to timber, to keep in motion the thousand wheels which the swift streams of the State will impel.

For the New England Farmer.

DRAINAGE OF DRY LANDS.

Not having personally seen the land on Ex-Governor Smyth's estate at Manchester, the profitable *incidental* drainage of which I mentioned in a former communication, and to which, I presume, your correspondent, J. L. Hubbard, alludes in your issue of July 15, I cannot say to what extent the draining improvement has operated; but my practical experience enables me to show Mr. Hubbard that the principle of draining dry lands—without carrying through the drains the moisture from adjoining wet or swampy places—is a good and a profitable one. I suppose satisfaction on this score to be his object.

When I was not "A Fireside Farmer," and when I had to pay at least as much annual rent per acre for land as it can be bought for in many good farming towns in New England, the rage for drainage began to possess the minds of land-owners, and leases were generally drawn making it incumbent on farmers to periodically drain stipulated portions of their holdings until the whole should undergo that improvement. I was of the number so bound, and was as skeptical concerning this incumbency, in the matter of what was considered dry soil, as the most obdurate non-improver could wish. My landlord furnished tiles and I had to furnish labor, and draining being "in the bond" it had to be done. Hundreds of the most intelligent farmers similarly situated as I was, and whose sage practice and experiences were more valuably suggestive than mine, denounced the drainage of dry land as a sheer absurdity—a throwing away of money and material—an imposition on common-sense judgment—a folly which had no justifying feature. The practical testimony of Mr. Smith, of Deanston, one of the fathers of the improved drainage system in Great Britain—of many others who had followed and proved his theory that light lands demanded drainage in order to be profitable—and the demonstrations in its favor by Prof. J. W. F. Johnson, of Edinburg College, the famous writer on Agricultural Chemistry, were of no

account with us. We knew better; of course we did. If growlings could have encompassed our drainage it would have easily been done; but we had to go at it with ploughs and spades, and it was performed by dint of their diligent use, and very grudgingly.

Now for consequences, for in them was to be found proof of our wisdom and the great folly of those who opposed us. I had two fields, one falling to the west from a narrow ridge, and including eleven acres; the other more slightly sloping to the east from the same ridge, and containing eight acres. Both were naturally drained; that is to say, the fall from the ridge on the west to the bottom of the field was twenty-six feet, and that on the east seventeen feet. Very superior facilities were afforded by the former for the washing out and away of the manures in the soil during heavy rains; the privilege in this respect on the east side was not exactly so desirable. The soil, in both instances, was a light, loamy clay, very gritty, and on the west side, more than half way down the field, almost what would be called gravel bed. Barley had always been the best crop grown upon it, the reason for which see the books of Agricultural Chemists, and "when seen make a note out" as Cap'n Cattle says. About half a dozen rods on the lower part of the west field the land was level, and ran along a highway. The soil here was deep and without grit. It was the best spot for weeds and aquatic grasses that could be found; and also grew excellent turnips, although the labor of keeping the weeds down made the crops hardly so profitable as they might have been. It was just such a spot as would, I believe, have charmed your correspondent, "C. E. K.," to whom I will pay my grateful respects anon.

This west field was drained in the fall, ploughed and winter fallowed. It was cross-ploughed next spring and planted to potatoes, which gave an excellent crop. The season was an average one, but the yield was very superior to what it had ever been known before. The manure used was a mixture from the stable and cow-house for the higher part of the field, and on the lower portion ashes from the yards in a neighboring village.

The second year the land was ploughed and sown to oats. The season was an ordinary one. I had a fine crop—*three hundred bushels more than had ever been raised on the same land.*

I was bound to a four course rotation—green crop,—oats, barley or wheat—hay and clover, and pasture. Another occupation took me from the farm after the hay crop of the third year was harvested (and it was a superior one, although the spring had been a very dry and unfavorable one for grass.) I did not weigh it, and can only speak by the rule of comparative bulk.

Co-incident success showed itself in the ex-

periences of my fellow farmers; and we, as a whole, became as nearly converts to the "stupidity" of draining light lands as could be; and had some conscientious opinions that we were not exactly invested with all the agricultural wisdom then afloat. Time and experience satisfied us that we had been wrong.

Now I could easily fill a page of your excellent practical paper in showing how these beneficial results happened; but it is enough to say that the effect of drainage was to deepen the soil and render it porous; give it power to retain a healthy quantity of water, at a depth where plants could reach it, and in a position where it could not be evaporated by the heat of the sun. There is much fractifying matter in rains and snows, which, if allowed to sink into the soil, instead of being washed off its surface, make a fair manuring of themselves. Let any farmer catch a tub of rain-water, allow it to settle and then examine it, and he will find a quantity of fine sediment, prepared for the food of plants, which will surprise him. Let him, in snow time, take a quantity of the purest snow, press it firmly into a glass tumbler, and cover it carefully up so as to allow nothing to get into it, and when it melts he will find a considerable portion of pure charcoal precipitated, which, left in the soil instead of being washed off, could not but have excellent effect on crops. It is of no use to say that if drainage makes land porous that these fertilizing ingredients will be washed through the soil into the drains; for let any one examine the outlet of a main drain during a heavy shower, and he will find the water flowing from it to be as clear as if coming from a living spring. No; these fertilizing substances, in the process of infiltration, remain in the soil and add to its depth and vital activity. I say nothing of the advantages of ventilation, heat, &c., which are also essentials demanded in a healthy soil, and which thorough drainage will produce in the most desirable and profitable way.

On overhauling the very excellent communication of "C. E. K." of Dudley, Mass., I do not see that we are at issue in anything but one. He seems to hold that irrigation is a beneficial thing, "on good corn land," without drainage; and I respectfully beg leave to differ. Were land under irrigation drained (there being a constant supply of water,) the benefits of drainage would be incalculably greater than if it were otherwise. The reason for my belief is roughly hinted at above, and I think your intelligent correspondent will see the point.

Finally, I entirely approve of "C. E. K.'s" suggestion that experiments should be made with drains on dry land to prove their value or the contrary. It was just by that process that I was *compulsorily* convinced that drainage, *under all circumstances*, was proper and profitable; and I am not sanguine enough to believe that any other method of proof will

satisfy thousands of practical farmers—readers of the NEW ENGLAND FARMER—that the theory I have advanced is a correct one. By all means let us have practical evidence, even on a small scale. I indeed challenge it to come forward in my defence, but especially for the benefit of the agricultural community. Thankful that this draining question has engaged the attention of so many intelligent correspondents, I am, &c. A FIRESIDE FARMER.

Boston, July 17, 1871.

For the New England Farmer.

TOP-DRESSING---STEAMING HAY.

In the address of G. F. Beede, Fremont, N. H., (see FARMER, July 22,) is some sound advice in regard to the top-dressing of grass lands. But there is one idea to which I would especially refer, and that is, the effect of animal manures in rendering compost materials of greater value, over and above the value of the added manure itself.

Last summer, during the severe drought, I carted a larger quantity of loam than ever before into my stable, piling it up in rear of the cows, and to such a depth under foot as to make it difficult to walk in the stable.

In cleaning the cattle stable, I removed not only all the loam which was wet, and also, as for several years before, a small amount of dry loam to cover it, and to hold the ammonia, but I went still farther, and got down into the cellar a great deal more than I had before supposed to be necessary; thinking that the fermenting of the manure would warm up, loosen, lighten, "leaven," as Mr. B. says, the whole mass; believing, also, that the alkalis and the carbonic and other acids would act as disintegrators on the crude particles of inorganic matter, and that the loam and the manure would be of more value thus worked together, for these reasons, than if all saved and separately applied.

One of my neighbors, an excellent farmer of sound judgment, disagreed with me; thinking, as I had formerly done, that enough to absorb the liquid was about all that was of use in the manure; and that whatever was used farther than this could be directly applied to the field with less labor and the same result. I top-dressed some of my grass land with this material, and the effect was surprising. Cutting a swath lengthwise of the field, commencing with the top-dressed, you passed to the other with the thought of going down a high stair, and in thickness the difference was equally as great, and the quality of the top-dressed was far the best.

The use of rotted loam alone, however, is not practiced so much as it will be sometime. A neighbor of mine has a field at a distance from home, which he has kept in good grass as to quality and quantity for twenty-five years by this means alone, never ploughing, and the soil is only a common light loam.

He digs and heaps up a lot of mould from similar soil on the roadside of the wall, and spreads, after a year's rotting, after haying.

When Massachusetts farmers can afford to buy corn meal for a fertilizer *directly applied*, it is quite evident that the man who raises some other crop will make the most money. Hay will be about as high, and may be higher by the pound than corn, next winter, unless a vast change takes place; and unless some special crops are grown, I can hardly see how a farmer can do better than to collect all the top-dressing material possible, now, in the coming fall, and in winter, keeping a huge stock of it under cover, dry-housed, to be liberally used during that season; and applying to his fields whenever he can, and especially in winter. He will thus save valuable time in the busier season for other purposes.

Refrigerator and Steaming Box.

In the same issue of your paper there is a description of a home-made refrigerator, such a one as I had just completed for another purpose, except that the space between the two boxes was three, instead of only two inches. The *Journal of Agriculture*, (St. Louis,) contained an article some time ago, in which the writer described a box for steaming hay. He first got his idea from the "Poor Man's Cook Stove," a Norway invention to save fuel. A box was very heavily lined with felt, which is a slow conductor of heat. Then meat, vegetables, or anything to be cooked, can be heated to the right point and placed in the box where it will continue to cook as long as desired. The writer, on the same principle, constructed his box like the refrigerator—i.e. two boxes, one within the other, and a space between. The space in this case was filled with chopped straw and sawdust, as I had intended to fill it in my box. But a neighbor told me he thought it would be better to entirely shut up the space and trust to dead air. This I have done, but think I will add the improvement of the refrigerator-man, by lining with old zinc. Of course the box if a poor conductor of heat, will either shut it out or in; the temperature being kept as nearly as possible to that desired for a considerable time. The hay being cut, hot water is applied, the box closed, and cooking goes on. Or, by using ice, the same box becomes a refrigerator at once.

Another winter will show how it will work; but it is to be hoped that the present scarcity of hay will lead many farmers (there should be no exception,) to adopt some plan for steaming.

To regulate the size it was first built amply large. Around the inside, splines are screwed, which can be raised or lowered, and the lid sits down on these splines in the box, high or low, according to the amount of hay to be cooked. Another lid on top of the box gives the double cover.

If necessary, a pipe to draw off surplus water can be had at the bottom. My neighbor's idea was, that the reason feathers, sawdust, felt, &c., are slow conductors, is because they hold dead air in their own mass, and that the dead air without them would be equally as good. He thought the denser anything may be the more rapid its power of conducting heat,—iron being a dense body and a rapid conductor. But if partly correct, the idea can hardly be wholly so if zinc is a slow conductor. Let every farmer collect all his bedding, without using any article which may be fed out. Leaves, pine needles, brakes, &c., will answer the purpose. Any kind of coarse straw can be scalded or steamed, grain added and fed. By far the cheapest articles of nutrition in animal feed are to be had in corn or some other meal or grain feed. But something of the hay kind is necessary for animal feed, in addition, just as coarse watery feed, like fruits and vegetables, are necessary for a part of our food, instead of all bread, meat or other food of a more concentrated nature.

And there is much coarse, hard, indigestible material which can be combined with grain, in such a manner as to give a given weight of mixed feed, of equal value to English hay, at a much lower price. See the comparative value of different kinds of feed in the latter part of the "Old Farmer's Almanac," 1871.

Franklin, Mass., 1871.

F.

For the New England Farmer.

THE GARDEN IN SEPTEMBER.

Among the many works that have been published on American gardening, that of William Cobbett, although written over fifty years since, is one of the most instructive works that can be placed in the hands of a beginner. Although ignoring some important points of the science, he seems by intuition to have a happy method of teaching practical gardening. His style is plain, clear and straightforward. The history of this notable Englishman is a somewhat remarkable and eventful one, and cannot but be interesting and instructive to all young men who, not content to remain mere plodders, would rise in life. The son of a small farmer, his first occupation was driving small birds from the turnip-seed, and the rook from the pease; trudging the fields with his wooden bottle, and his satchel swung over his shoulders, scarcely able to climb the gates and stiles, or to reach home at the close of day. He comes to America, settles on Long Island, returns to England, and is elected to Parliament, where he missed his calling, not being calculated to figure well in that capacity. His two works, "The American Gardener" and "Cottage Economy," contain much of sterling merit, which will never be outlived. Cobbett's love of rural life, his habits of industry and perseverance are to be recommended as

an example to the young of our day,—further this writer saith not.

With all that may be said and sung of new varieties and novelties, suited to the garden, none, or all combined, should lead us to neglect the old and tried, and such as are essential to our comfort and health; neither should we neglect to plan for future campaigns in the garden, nor to save what we already have. In the garden, then, we shall find room this month for the exercise of no small amount of judgment, as well as energy in gathering, marketing or storing, the products. Ignorance or carelessness in these respects may result in disheartening loss. Premature gathering, or gathering under other improper conditions; storing where liable to injury by frost, wet, or other accidents; storing sound and unsound fruits or vegetables without assorting; packing in leaky or improper packages; gathering seeds prematurely, or not at the right stage; storing or packing them before properly cured and dried, or placing them where they will gather dampness or be too hot; leaving products exposed to unruly or trespassing cattle, pigs, &c.; bruising and improper handling, and shiftlessness in marketing or in preparing produce for market, are some of the many ways by which we may fail to realize maximum profits, after producing good crops.

During this month it is often the case that contemplated improvements may be "pushed" to greater advantage than at any other time of the year. Improve every leisure opportunity in commencing or forwarding all well considered plans of permanent improvement.

BEANS.—Gather and put in a dry place as fast as they ripen; save the finest specimens by themselves for seed. Thresh, shell and clean, or assort before marketing. Unripe Limas, gathered before freezing, laid away and dried, are excellent for winter use.

BLACKBERRIES.—Remove the old canes and weak shoots, leaving two or three of the strongest and best for next season's fruiting.

CABBAGE AND CAULIFLOWERS.—Keep late plants well heeled and growing; sow seed for plants for wintering in cold frames.

CELERY.—Earth up as it grows, with dry soil, taking care that no dirt is left between the stems or on the crowns; earth up only when dry.

CORN.—Save the earliest ears on the healthiest and best stalks for next year's seed. Gather before freezing, boil, shave off the grain from the cobs and dry as you do apples, in the sun or by fire, or can, if you think you can do it successfully. Cut and feed the stalks to the cows.

CUCUMBERS.—Save seed from the ripe ones; cut them in two length-ways, and scrape out the seed part into a pail; in a week or so this will ferment, so that the seed will settle and the rest will pour off, when the seed may be washed out clean, in water, and dried in

the sun—stir the seed in the pail or tub daily after removing till washed out, and once or twice a day while drying. Sweet pickle may be made from those partly ripe; the small ones should be gathered as fast as they attain a proper size for green pickles, either in vinegar or laid down in salt. For pickling in vinegar, gather carefully, cutting from the vine with scissors or knife, leaving half an inch of stem on each; brush them clean of dirt and dust, being careful not to rub off the little spines; pack in the pickle tub, or pot, with a few peppers, and pour boiling hot speed vinegar over, and cover them close; when cold put a muslin cloth on the pickles, seeing that the vinegar covers the whole. To salt, clean of dirt as before, or wash them, throw them into a cask, a laying of two to four inches, and give a good coat of salt, as you would in salting beef or pork—don't be afraid of giving too much salt—they will make their own brine, when it should be seen to that the pickles are kept entirely under it. In this way they will keep for years.

ENDIVE.—Give liquid manure, hoe and treat like lettuce; gather up and tie the leaves for blanching.

MANURE.—Save everything that may be converted into plant food, and add to the compost heap; dig and haul muck; gather dry earth, or dry, sift, and store, to use in the privy, hen house, &c.

MELONS.—Gather, use, or market, as fast as they ripen. Seeds may be treated similar to cucumber, as above, where in quantity; when only few, wash out and dry immediately. Ripeness of melons is determined by sound, when snapped with the fingers, or by gently pressing, when a snapping sound is heard.

SINACH.—Hoe and thin the growing crop. Sow a full crop of the prickly-seeded variety, for winter and spring use, early in the month.

SQUASH.—Gather and pack away fall and winter varieties, secure from freezing, in some dry place. A light frost often injures squashes materially, and often defeats their keeping sound. Harvest as soon as ripe.

TOMATOES.—Make ketchup, or can and preserve the ripe ones; the green ones make excellent pickles, with peppers or spices to season them.

W. H. WHITE.

South Windsor, Conn., 1871.

For the New England Farmer.

LETTER FROM MAINE.

Season and Crops.—Drought.—Pastures.—Ravages of Grasshoppers.—Call from an Agent.—Blindfolding the Bugs.—Sweet Flag Roots.—Productive Sheep.

Perhaps you may find a space in your ever welcome paper for a few lines from an old correspondent, living away among the hills of Oxford County, in the Pine Tree State.

The season has been thus far very dry. The grass crop on dry land is probably as light, if not the lightest ever cut in this State,

yet on wet land the grass is fair, and is still growing, and as the present indications are very favorable, the out-look for fodder is much better than it was two weeks ago. Everything has looked gloomy indeed. The pastures were as dry as in late autumn, and looked as though the fire had passed over them; grass had become hay, standing in the fields; grain was drying up; potatoes were dyspeptic and sickly; corn, except on moist land, was small and kept low,—many pieces of early planted were spindling out within a foot of the ground; peas were small and but two in a pod. Nothing seemed to flourish but weeds and grasshoppers; the latter more abundant and voracious than they were ever known before. Whole gardens have been stripped of every green thing, and grain fields destroyed almost in a day. Many fields of grain have been cut to save what fodder they might make, as they had been rendered entirely worthless for grain. Some fields of grass were denuded of leaves—nothing but the coarse, fibrous stalk being left, and beans and potatoes have not escaped the general destruction of these winged varminths. These remarks will not apply to all places, only to certain localities, yet grasshoppers are very numerous as far as my knowledge extends. The present indications are that the drought is broken, as we are now having fine showers and have had no hay weather for two days. Vegetation has greatly revived, and all nature is smiling its thanks for a cooling bath—"but who knoweth what a day may bring forth?"

I wish to communicate an experimental fact to your readers, which some of them may already know, yet it will do them no harm to learn that others know the same thing. By the way, I believe in a kitchen garden, and always intend to have one as long as I have strength to do or brains to direct. This season, a little black bug or flea, or some other named insect, destroyed my melon and cucumber vines. I tried various remedies, but did not get much the better of the rascals. One day your agent, E. P. Frost, called on me, as you know, such men will when they have an account against you of long standing, but knowing well how to keep them good natured, I invited him to stop to tea and to look over my premises a little. As we passed through my garden patch, he noticed the forlorn condition of my vines, and asked me "Why do you permit that?" I told him because I could not help myself; was dead beat, &c. He said take half of a newspaper,—any kind but the NEW ENGLAND FARMER,—lay it over the plants, and place a little soil around and on the edges of it, so that the wind should not blow the paper away, and in a short time my plants would be all right. Though rather doubting, I tried it, and it worked like a charm. I think the vines grew much faster under the paper than in the open air, even if there had been no bugs. I say let others go

and do likewise. By the way, Mr. Frost is a live man, and just knows his business and attends to it. He is an ever welcome visitor, though he may come with a *sharp bill*.

Where can one find a market for sweet flag root? How should it be prepared for market, and what is it worth a pound? Will you or some of your readers kindly inform some of your Maine subscribers?

O. Brown raised twenty-nine lambs from twenty-six sheep, sold them for \$3.00 per head, and sold the wool for sixty cents a pound this year.

GEO. H. BROWN.

Munson, Oxford Co., Me., July 20, 1871.

REMARKS.—We made inquiries at the establishment of Geo. W. Swett, 37 Court street, in relation to the market for Sweet Flag Root. The roots must be cleanly washed, small fibres removed, and the roots split into two or more slices and thoroughly dried. We understood that in this condition it was worth some ten cents a pound. But we should advise any one who contemplated curing any considerable quantity to correspond with Mr. Swett or some other dealer in roots, bark, &c. We also inquired of a man who peddles the root about the city as to its market value. He said he dug himself what he sold, but did not know that there was any market for it by the quantity.

ORCHARD GRASS.

I have been in the habit of cultivating this grass for the last thirty years, and esteem it most highly. It is the first grass to start in the spring, and the last to remain green in the fall. It roots deep and is the least affected by dry weather. It grows well in the shade, starts immediately after being cut, and will produce more feed or grass than any other that I grow, and it is as easily killed by the plough as timothy or clover.

As its habit is to grow in tussocks, I would recommend to sow it with other seed, say equal parts with timothy and clover, if for feed or hay. But I will here say there is no use in sowing it on poor land—it will not grow; it must be rich, and it delights in the rich prairies of Livingston county, Ill.

Orchard grass seed is one of the most difficult to save, and requires a great deal of care and prudence in thus doing. I think it is the earliest seed to mature that I know of; hence, there is no danger of any foul seed with it, and in this latitude (42 1-2) is now in the proper stage to save for seed, which is in dough state. No time should be lost in cutting it now and when the dew is on. Spread thin on the ground after being cut, like grain from the cradle, and cover the heads lightly

with grass until the butts are cured sufficiently so as not to heat, then put in barn or stack. At any and all times use great care in handling, as well as the proper time in cutting, or you will get but a small proportion of the seed. Thrash immediately after harvesting, and use the utmost caution not to have the seed spoiled by heating before threshing. Use new seed only, as old seed will not grow. It is a light seed, weighing about twelve pounds per bushel, and, unless you knew the weight, would think you were sowing chaff.—*S. G. Cone, in Prairie Farmer.*

UNITED STATES WOOL INTERESTS.

Now that wool growing has again become an interesting item in the farm economy of the United States, the question naturally arises as to the stability of prices in the future. What Americans most need as a pre-requisite to success in business, is a fair comprehension of the probable future, since this knowledge will enable any man of good understanding to shape his affairs to any possible contingency.

The past history of wool growing and wool manufacture in this country has seemed to demonstrate the fact, that in order to success, there must be governmental protection to both; and when we are called upon to say what are the future prospects of wool growing in the United States, we must refer, for a solution to the question, to what will be the policy of the Government in this item of domestic production. Without extending our observations into other matters embraced in a general tariff system, we may accept recent developments as significant of a revival of feeling in favor of protection to American wool growing. If this can be assured to the farmers, there is nothing in the way of an increased attention to the raising of sheep in this country.

The presence of a fair proportion of sheep on the farm, with other kinds of live stock, is so eminently desirable, that nothing but ruinous discouragement in the price of wool will prevent our farmers from having them; and with a fair prospect of the continuance of the present encouraging aspects of the wool interest, we shall expect a healthy increase of the sheep flocks of the country. For a suc-

cessful prosecution of this business everything now seems propitious; the flocks have been weeded of all diseased and undesirable animals, so that the foundation of future increase is both healthy and select, while the commercial disasters of the immediate past will regulate men's minds to a wise and prudent course of future operation in wool growing.—*Rural New Yorker.*

DOSING HORSES.—Drenching a horse with fluid medicines, even if the latter are of an indifferent nature, like milk and molasses, is always very dangerous; but is extremely so, first, when the drench consists of substances,—for instance, oil or grease,—to which horses have a natural aversion; secondly, when the sick horse is suffering with a disease which is attended with fast breathing, like pneumonia, colic, &c.; and thirdly, when the fluid, as is often the case, is poured down in a forcible manner; for in such cases it frequently happens that a part of the fluid enters into the larynx and goes down the windpipe into the lungs, and causes there an inflammation, which frequently becomes fatal.—“*Veterinarian*,” in *Chicago Tribune.*

SCRATCHES—REMEDY.—A farmer and experienced horseman writes the *Rural New Yorker* from Canandaigua, N. Y., that the following is recommended for the worst cases: One pint currier's oil—two ounces oil of vitriol. Put it into a bottle and shake well together, when it is fit for use; bathe well the affected part or parts with it once a day. It will effect a cure in the course of three or four days. If the parts are covered with a rough scab, soften it by rubbing hog's lard upon it every day until the scab slips off. It will soon slip off and leave the legs smooth as ever.

TO REMOVE PAINT FROM IRON.—Dissolve two pounds of potash in a bucket of water; add about one and a half pounds of slaked lime, and stir it well. With a mop apply this mixture to the paint, and after a few minutes it may be easily removed by scraping. As rapidly as the old paint is scraped off, rinse the iron with fresh water, and dry it. This will leave the iron clean and bright.



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MONTHLY.

SIMON BROWN,
S. FLETCHER, { EDITORS.

OCTOBER FACTS AND FANCIES.

"The yellow suns of Autumn fall
Across the orchard and the wood;
The still air echoes every call.
The vine lies painted on the wall,
And all the maples drip with blood.

The neighbors come from far and near,
And gather on the broad barn floor;
To celebrate the ripened year,
And strip the husk from off the ear,
That turns to gold the farmer's store."

Riverside Magazine.



OCTOBER brings the fruition of the harvests. The small grains were long ago secured. The hay and Indian corn, the apples, pears, potatoes, and most of the vegetables for family use and stock will be cared for by the close of the month. By this time rough winds will blow. Dry leaves will be heaped under the walls, and rustle along in the garden paths. In the

morning, grass will be crisp with frost, and perhaps little pools in the road will have a slight coating of ice.

What a striking change between this and the last of July! Most of the birds that then made the day cheerful with their music have left us. The plaintive note of the bobolink, a few of whom lingered with us until late in September, is heard no more. He is already in his favorite fields of wild oats on the banks of

the Delaware or Potomac, or in the rice fields nearer the Gulf. The summer voices in the meadows are dumb. The robin is still with us, visiting the garden for a worm in the mellow soil, or coming in numbers to feed upon the berries which hang in rich profusion upon the branches of the Mountain-Ash trees. Unnumbered crickets make the evening melodious, and the pretty little screech-owl loves to sit at midnight on the garden fence, and hour after hour pour forth his soft and tremulous notes. How this beautiful little night-bird got such a hideous title, we cannot imagine. His notes are the very reverse of a "screech," being low, soft, quivering, and harmonious, as the dulcet notes of the flute.

Many complaints are made of our climate, which, upon the whole, may be as agreeable as that of any other land. We are inclined to think it is. We certainly "have one season, reaching from the last of September partly into November, which is probably as productive of delicious physical sensations as any in the world. It is a season when, in the early cool of the morning, we recognize the first breath of Winter, which is yet afar off, and our fevered frames welcome the invigorating atmosphere as the lips of travellers in Sahara greet thankfully the longed for cup of cold water. Bodily exertion is no longer wearily oppressive; upon the contrary, there is an exhilaration in the air which will not suffer us to remain quiet. As we walk past the

variegated panorama or changing foliage, we begin to think that ten miles now are easier of accomplishment than one was under the old solar radiance."

The idea has been a very general one, that the autumn of the year is a sad season. It is expressed by old writers, and even the sound and placid mind of our Mr. Bryant, seems to have been tinged with it. Speaking of autumn in one of his most charming poems, he says,—
"The melancholy days have come, the saddest of the year."

These feelings may be excited by the processes of Nature. The ripening fruits; the withering and falling leaf; the brown fields; the cessation of growth in vegetable matter, and the general appearance of death and decay in the plants which lately were so full of life and vigor. These changes, however, are more applicable to November than to the present month. But upon a clear OCTOBER day, with its sky cloudless from the rise to the set of sun, its invigorating temperature and its variety of color, the natural feeling is one of exultation.

In one of his works, Mr. Emerson speaks of a frame of mind when walking, in which he was almost afraid to think how glad he was. Just as we met him a few days since, in a charming wood-path, his countenance beaming with the joy he was "almost afraid to think of." So it is that "the fine OCTOBER day, with that brilliancy which under a higher temperature might sink us into a dreamy indolence, makes every sense so keen that each moment has its new and separate pleasure. The animal spirits rather rise than sink; the eye is clear to catch the magnificence of the landscape and the glory of the sunset; the ear grows sharper for rural sounds, as they become fewer; the fruitage is always a cheering lesson of the recuperative forces of Nature; and the few flowers which the early frost has spared have a value which we did not accord to the gay and populous parterre."

OCTOBER is usually a month to be trusted; the time, of all other seasons, for the farmer to go forth with his family and team, to visit relatives and friends, when—

"Upon the brown and far off hills
The haze lies soft and blue,
Wild oats are dropping thick and fast,
Where summer wild flowers grew.

The woods like some grand temple stand
Beneath the glowing skies,
While down the long dim aisles, the haze
Like slumbering incense lies."

FARM WORK FOR OCTOBER.

No other month in the year affords such excellent opportunity for making permanent improvements upon the farm, as the month of October. The pressure of the harvests is mainly over. The weather is cool, and man and beast can work with comfort. Rains are not frequent, and the soil is usually in such a condition of moisture as to render it pleasant and easy to be handled. Now, then, is the time to

Remove Rocks from Grass Lands.

The cheapest and best way to do this, is to sink them where the lower earth will admit of digging. First measure the diameter of the rock and then throw out the earth to an extent a little larger than that diameter, blocking the rock with joist or pieces of timber, against the bank to prevent its premature fall. This is important, because, if the rock is a large one, the operation is somewhat dangerous. We have known death to ensue from a neglect of this precaution. Block up so thoroughly as to be able to dig somewhat under the rock. The hole excavated should be sufficiently deep to allow the rock to fall a foot, at least, below the surface. When this is accomplished, knock away the braces and let the rock go down.

With a heavy sledge and many blows, some large rocks may be broken and handled more easily than if whole. By digging about others, the top may be broken off so as to leave a foot of soil above the part left in the ground. Stones weighing half a ton and upwards, may be got out of the way much cheaper by these processes, than by drilling and blowing.

There are some advantages in this. First, the surface of the land is not changed, as nothing is taken away. Second, the cost of drawing off the stone when thrown out, and third, the cost of carting in materials to fill up the holes. Then there is the gain of having the field pretty thoroughly *trenched*, so far as it was dug over in removing the rocks. These spots will be found the most fertile ones for ten years to come. There is, also, another gain in this work. Half the cost of doing it may be saved in the preservation of ploughs, rakes, mowing machines, tedders and cultivators, and perhaps, the life or limb of a valuable horse, before ten years are half out.

October is a Good Time for Draining.

Some years ago, it was the common opinion that the foundation and main spring of all good farming, was through the agency of *manure*. There is abundant reason to change this opinion somewhat, in regard to many pieces of our best lands.

The grass crop in New England is one of the most important. For this, our moist lands are best adapted. We can get it on friable uplands. But it is more expensive there, because they are more easily affected by drought, and of course run out quicker. On thousands of acres of moderately low lands, the grasses will flourish for many years, if *cold water is not allowed to stand near the surface*.

In order to effect this, these lands should be drained with tiles; not stones, because the soil is usually deep in them and sooner or later mice will find their way through them, rain and sand will follow in their paths, the stones become obstructed and the drain spoiled. If upon digging to the depth of four feet, the hard pan is reached, it may be safe to use stones. But unless stones are abundant, and near at hand, it will be cheaper and safer to use tiles.

If the farmer is not acquainted with the manner of laying tiles for draining, and contemplates using them, he will be a gainer by spending a day or two in looking at others doing the work and conversing with them as to the best modes of proceeding.

At any rate, drain. Drain with something; sticks or boards or stones. Failing in these, make open drains, although they are temporary in their nature, ugly-looking and expensive. But they are better than nothing.

Stone or Wooden Fences.

We hope the day will come when the only fences upon our farms, will be those around grazing lands. Fields abutting on the highway, handsomely finished off and running down to the sidewalks or edge of the road, are more beautiful to our eye than when enclosed by fences of any kind,—stone walls, rails, pickets or hedges. There is no need of them. The laws of all the New England States forbid stock of any kind running at large; and in the few cases of passing droves, or of driving stock to pasture, a little extra help would be needed for a few times only, before the cattle would learn to keep the high-

way. If half-starved, they would undoubtedly insist upon trespassing wherever they could find something to eat, when it ought not to be considered a hardship by the owner to pay the damages they might cause.

What a vast saving might be found in dispensing with these fences. Use those now standing for building or other purposes and erect no more.

There being no fences to care for except about the grazing lands, let those be of a permanent character, so as to prevent educating breachy cattle.

When this becomes the general practice, there will be opportunity not only to remove the stones from the fields, to drain them, level, remove brush, and make them convenient in every respect, but also to embellish the farm with beautiful and profitable sugar maple trees on the roadsides, keep a neat lawn in the front, or near the house, and assist the women in cultivating fruits and flowers.

The beautiful OCTOBER will suggest to the progressive farmer many other things which may appropriately be done at this season. Using the time wisely and well, will afford many pleasant reflections, when wintry skies prevent us from laboring in the fields.

For the New England Farmer.

THE UTILIZATION OF BEST FRUITS.

BY GEORGE RUSSELL POWERS.

A vegetable diet has been declared to be impracticable by many persons who have tried one for a limited time. The reason of failures of such attempts is that they have not been conducted on a sound, scientific basis. The scientific world is impractical, and the practical world is unscientific. A certain combination of element is necessary to sufficiently sustain the human system. In northern regions oil is especially necessary. Yet it is in northern regions that people have often attempted to sustain themselves on a thin, watery diet of acid fruits, and nitrogenized roots and seeds. In northern climates oleaginous products are sparsely distributed by nature. The walnut of the Mediterranean and the olive are perhaps produced in sufficient abundance to supply a great semi-tropical belt with oil and concentrated fibres, but farther north, nut-food is scarcer, although cultivation might produce it to such a degree, if properly economized, as to make indigenous trees meet the wants of men up to the fiftieth parallel of latitude.

The black and white walnuts, the chestnuts,

chincapins, hazlenuts, pecan-nuts and shag-barks of the United States are not cultivated and appropriated as they ought to be. Vast forest tracts should be devoted to their exclusive culture, and machinery devised for extracting their kernels, and manufacturing them into food-staples. The meats of these nuts are exactly adapted in their constituent chemical atoms to form hydro-carbonized and fibrinized foods, better calculated to sustain the body of man in intensely cold weather than the flesh of the inferior animals.

In California the native sugar-pine, a grand and lofty tree, supplies the Digger Indians with large quantities of powerful heat-forming and flesh-producing nuts. In Nevada, the pinton or feather-pine feeds the Pale Utes largely during the winter months. The sickly among the Indians are said to recuperate, and grow robust and fat when the pine nut season arrives.

Beans, when cooked with fat, are quite analogous to nuts in their sustaining qualities, and a vegetable oil might always be used in preference to pork. Fried beans and *tortillas*,—flat cakes made from Indian corn,—are the staple dish in Mexico. Pea soup every alternate day is the regulation dinner in the English merchant service.

The fact is the best vegetable substances are but meagerly appropriated by man. Indian corn is really a sort of dwarf annual palm, and its seeds are more nutritive than those of wheat, rye, barley, oats, or any other of the grasses. The Mexican way of utilizing corn is probably the best, and might be conducted by factories on a great scale. The corn should be soaked in lime water until the cuticle rubs off easily, then ground and dried. Meal made in this way is almost as fine and white as starch, and very palatable,—more palatable than wheat flour, more soluble, more easily masticated, and more nutritious. Our common corn meal consists of rough, angular fragments when microscopically examined,—hard, silicious and almost as insoluble as flint. Machinery for making American corn meal was once taken to Acapulco, but the Mexicans refused to patronize it, preferring, although they are a proverbially lazy race, to rub their corn to a paste on flat stones, by hand, in the old-fashioned way. If their plan was imitated in the United States by machines, the edible produced would soon become popular, and a formidable rival to wheat flour.

Farming in the United States, while becoming avowedly more scientific every year, is really becoming less and less practical. Yet it is as practicable as ever, and should be immensely profitable, even in barren Massachusetts. There is scarcely an acre of land in this State which cannot be made vastly remunerative in two or three years by careful tillage alone without the application of any manure except such as is applied naturally by sun, air and water.

This may seem a wild statement to some. I invite those who are skeptical to make the following experiment: Let any one who has sterile upland pasture land, overrun with lichens, ferns, bayberry bushes, &c., plough ten acres or less this fall, ridging it across the natural inclination of the land. This will check the waterfall, and cause a rapid disintegration of mineral matters contained. Let a cheap windmill, with wooden cisterns be erected on the highest point, which shall pump water from a well, pond or stream. In the spring cross-plough, harrow and ridge the land as before, and plant Indian corn and white beans on the alternate ridges. Cultivate as usual, without giving any artificial manure, but irrigating freely throughout the summer. When the crop is harvested, throw all the stalks and vines into the furrows, and plough back, ridging where the furrows were, and plant the next season, corn on the bean ridges and beans on the corn ridges, and note the increased yield. No forage from such crops should be wasted by exposure, or taken from the land. It is more valuable as a humus-producing material than in any other way.

I do not pretend to affirm that crops of corn and white beans alone will pay for the immediate outlay required for this experiment, but I do state my belief that systematic irrigation and return of waste substance to the soil, without the intervention of the barn-yard, will gradually fertilize land so that fine fruits and vegetables can be grown on it in a few years and which will not be as liable to suffer from blights and insects as when cultivated in the usual manner. My observation of climates and soils here in the East, in California and the Sandwich Islands, has led me to the conclusion that hand-irrigation will pay proportionally as well in old Massachusetts as in foreign lands.

Kingston, Mass., Aug. 24, 1871.

REMARKS.—We should judge that Kingston offers as favorable conditions as most other localities for a practical test of the theory of our correspondent, and we hope he will illustrate its feasibility by an experiment which shall demonstrate the fact that for once at least the practical world is not altogether unscientific.

DISCIPLINE OF ENGLISH JOCKEYS.—The *Turf, Field and Farm* gives the particulars of a case where a rider in one of the late English races fell from his horse in a fit, striking on his head and injuring himself seriously if not fatally, and states that his illness was caused by the severe sweating, dieting, &c., to which he had been subjected to decrease his weight. It is also stated that it is customary for the English jockeys to subject themselves to such treatment to reduce themselves to a certain weight.

THE WEEDS WE MAKE!



ONE of the richest plants which we cultivate for table use, even in garden beds, may, by neglect, become the most pestilent of pests. One of them, is

The Wild Carrot.

DARLINGTON, in his valuable work on "Weeds and Useful Plants," states that the carrot is a native of Europe and the East. We give it a hearty welcome in this Western world so long as it is kept in a cultivated condition. Just as we

regard fire or our domestic animals,—when subjected to our control, excellent; when sweeping around at will, pestilent and dangerous.

The carrot is a valuable plant for the table, for horses, swine and neat cattle. In our modes of cultivating, perhaps it costs too much to be profitable for the latter stock.

When the seeds of the carrot are allowed to scatter themselves profusely over the ground, and remain unmolested for a few years, they become one of the most persistent and incorrigible weeds with which we have to deal. They exist on the road sides in some of our best farming towns, so as to cover the ground with a dense vegetation some two or three feet high. The number of seeds which they produce is beyond calculation, and when ripe, are scattered by autumnal winds over the fields of all adjacent farms.

The same process takes place in the

Rich and Marrow-like Parsnip.

This plant produces many seeds, and when these are neglected and suffered to sow themselves at random, they spring up the next year, go to seed, speedily degenerate, and in the course of a few years become a troublesome and unsightly weed.

By the use of persistent skill, many plants may be brought up from a bitter, tough, or

pungent condition, to a mild, succulent and tender state, so as to furnish a large amount of wholesome and nutritious food for man and beast.

The original potato was small, and was not tolerated as human food for a long time. They are mentioned by old writers as "a delicate dish," and that they were roasted, and then steeped in sack and sugar, or baked with marrow and spice. They were long considered as inferior food, and it was not until the middle of the eighteenth century that they came into general cultivation. A strong prejudice long existed against them in France, but they are now cultivated extensively, and a market in Paris is exclusively devoted to their sale. Now they are introduced into almost every quarter of the globe, and the varieties in use are *entirely the result of cultivation!*

Another plant, common upon many of our tables, is

The Wholesome, Crisp Celery.

Originally, this was a tough, acrid plant, unfit for man or beast, as food, but is now esteemed a great delicacy.

In the grass field, before us, as we write, are the flaunting purple flowers of the

Chicory or Succory.

The root of this plant makes up a considerable portion of the coffee of the shops, mixed with ground peas and a portion of the genuine article. It is one of the most tenacious plants in existence, and if not carefully suppressed will overrun the whole farm. The root is large, quite long, and holds on to the soil with such tenacity that a plant of two years' growth requires a man's strength to pull it up. It is cultivated largely in England as a substitute for coffee.

All these plants, and many others, have a tendency to go back to their original condition, and if allowed the opportunity would probably do so. By careful cultivation, however, we can preserve them

"Delectable both to behold and taste,"

and give us no trouble as trespassers upon cultivated crops in the form of unsightly weeds.

—Over 800 acres are devoted to tobacco in East and South Windsor, Conn., this year; greater in extent than all other cultivated crops except grass; and the yield will be greater, per acre, than ever before produced.

MISTAKE IN THE USE OF CONCENTRATED FERTILIZERS.

There has never been a doubt in our mind, that pure, concentrated fertilizers, or commercial manures, as they are called, may be made profitable to the common farmer. We have used Coe's superphosphate of lime with marked effects, and portions of the same lot distributed among neighbors were equally efficacious. The objection to them is, that they are compounded of several articles, a large portion of which are not worth one-tenth of the price paid for them.

Another cause of failure in them, is in the manner of their application. The reader will find below, from that excellent paper, *The Boston Journal of Chemistry*, a clear statement of how many failures occur:

"The cause of failure in the use of concentrated fertilizers," the *Journal* says, "is often due to the manner in which they are applied. It is difficult for those who have been accustomed to use bulky manures, to realize that the full fertilizing potency of a bushel of animal excrement may be held in a large-sized tablespoon, and that a handful of one adds to plant structures as decidedly as several shovelfuls of the other. A full dose of opium given to patients furnishes quite a dark, bulky powder, or pill; but if we separate the alkaloidal principle upon which its hypnotic power depends, we have only a little delicate white powder which a breath of wind will blow away. The one-eighth grain powder will affect the human organism as powerfully as ten times the weight of opium. If we were so forgetful of 'potencies' as to administer as much, or even one quarter as much, of the white concentrated powder as of the bulky dark one, we should destroy our patient's life, or at least do great injury to his health. So if, in the use of genuine superphosphate, or guano, or ground bones and ashes, we forget their power, and apply too much, or apply them too directly, we endanger the life of our plants."

An experiment made upon corn affords an illustrative case in point. At the time of planting, upon a field divided by a narrow strip of sward land, we directed that on one side a tablespoonful of the mixed bone and ashes should be placed in each hill, and well covered with soil; upon the other, four rows were to be treated similarly, and upon the remainder the hills should receive a double quantity. It is curious to observe the effects. The first field and the four rows are remarkably thrifty. The corn came up well, and has manifested remarkable vigor from the start. On the other hand, the over-dosed corn appeared for a long while as if it had been paralyzed by some wasting disease. It could not bear up under so much of a good thing. More free ammonia was formed at the start than could be appropriated by the tender plants, and many of them perished from over-stimulation and heat, produced by the fermentative changes of the active bodies in contact. The corn that survived, is at present growing finely, and will no doubt afford a large yield.

Now, if this had happened in the course of our regular agricultural labors, and without any understanding of the nature of the fertilizing substance used, it is probable it would have been condemned as a worthless or dangerous article. This has been the case with hundreds of experiments,

and is indeed a perfectly natural conclusion to reach. But we must learn to reason, learn to have patience, learn the character of the substances we employ upon our lands. We must be careful how we reach conclusions; we must examine closely to see if they are based upon correct grounds. There are well established principles in agriculture; let us cling to them, and when we get results that are puzzling or paradoxical, we must study causes, and not judge hastily."

FARMING AND GARDENING.

Most farmers confess that a good kitchen garden is a very profitable thing. But many of them have none. Ask them why they do not, and the reply will be, "Oh, I can't stop to fuss with a garden; pulling weeds, and thinning and hoeing all the time." But why not, if a garden is profitable?

One leading cause of unprofitable farming is that too much *poor land* is employed. If less land were used, and that used made richer, more like a garden, more profit would be found in farming.

In a late number of the *North British Agriculturist*, Mr. J. J. Mechi says:—"I could never understand why there should be any difference between gardening and farming as regards draining, deep cultivation, and abundance of manure and produce. I have asked why there should be any difference, and I am told by farmers: 1. That it would not pay to treat the garden as they do the farm—they would not grow enough. 2. When I say that is the strongest argument for gardening the land, I am told by the same parties that they have neither manure or capital enough; they don't mean acreable capital enough, but, in plain English, they admit that they hold too much land in proportion to their capital. Now there is nothing so easy as to double a farmer's acreable capital. I often say to my farming friends who have 600 acres of land, and complain of want of capital, take a farm of only 300 acres, and you will at once double your acreable capital, and from my practical experience I can assure you that you will thus considerably increase your percentage of profit."

WINE AND TEMPERANCE.

A good well ripened grape is a most delicious fruit. And sometimes when we have had to content ourselves with the immature, perhaps frost-bitten berries of our own vines, we have almost envied those who live in climates which are mild enough to ripen the grape,—to perfect its rich excellencies. But the perusal of a paper which was read before the Wisconsin Horticultural Society and published in its Transactions for 1871, makes us feel more like giving expression to our gratitude that our lives have fallen in pleasant places where the fruit of the vine is not a success. The author of the paper alluded to is Hon. Samuel D. Hastings of Madison. He shows most conclusively the fallacy of the idea that light wines or any other wines promote temperance. The testimony of such American travelers in Europe as J. Fennimore Cooper, the novelist, Henry Greenough, the Sculptor, E. C.

Delivan, Dr. Holland, and others, is quoted at length, all of whom saw enough to satisfy them that wine is the direct and immediate cause of drunkenness, and not of temperance. The result of the observation of these travellers may be expressed in the words of Dr. Holland:—

"Failing to find the solution of the temperance question in the Maine law, failing to perceive it in the various modes and movements of reform, I, with many others, have looked with hope to find it in a cheap and comparatively harmless wine; but, for one, I can look in that direction hopefully no longer. It is the testimony of the best men in Switzerland—those who have the highest good of the people at heart—that the increased growth of the grape has been steadily and correspondingly attended by the increase of drunkenness. They lament the planting of a new vineyard as we, at home, regret the opening of a new grog-shop."

But admitting that the experiment has not worked well in wine producing countries of Europe and Asia, it is asked is this conclusive evidence that it will not work well in this country, where the climate and habits of the people are different and where the use of stronger liquors is common? This question is met fully and squarely by the writer of this paper.

The Rev. Dr. Stone, late of Boston, is quoted as saying, at a convention at San Francisco:—

"I had entertained a sort of hope that the manufacture of pure wines and their introduction into general use, would crowd out the gross strong liquors, and diminish intemperance. I am fully convinced that this hope was groundless and delusive. * * It appears that in the wine growing districts, intemperance is on the increase, extending even to the youth of both sexes."

After having travelled extensively through California, the editor of the *Pacific*, a newspaper of high character, published at San Francisco, says:—

"But through some parts of these mountains, as well as in the valleys, there is arising a species of production fraught with dire evil to the producers and the country; it is that of wine-making. Already wine has become as cheap as milk, and is as freely drunk, till many once sober men, are growing habitually intoxicated. In one wine-growing neighborhood we are told that young girls, seventeen years of age, reeled through the streets under the intoxication of pure California wine. Men once of worth, now are, through wine, lost to society, and becoming a fear and disgrace to their families. One leading man enumerated to us five of his acquaintances who, once noble men, are now to be called drunkards, through wine. The production of this article, now fearfully on the increase, must prove a curse to the whole land if persevered in."

W. N. Mills, Esq., a gentleman personally known to the writer of this paper, and the editor of the *Rescue*, a paper published at Sacramento, says:—

"There are a great many people who make the argument that wine drinking will prove a cure for the vice of drunkenness, and they talk with such seriousness, that we are almost compelled to believe them honest in the doctrine they enunciate. But we would ask them to note this:—That every vineyard in the State is a drunkery; that men who a few years ago, perhaps were strenuous temperance people, or at least abstained from drink, are now, that they have wine producing vineyards, rapidly

becoming drunkards, and that Los Angeles and Sonoma counties especially, and the other wine producing countries proportionably, are noted for the extent of this vice, just in proportion to the number of gallons of wine they produce. These are the facts of the case as we know them from personal observation."

After listening to the reading of this paper, and after some remarks by Gov. Fairchild, who happened to be present, and by other gentlemen, none of whom would discourage the cultivation of the fruit for the table or for preserving, the following resolution was adopted by the Wisconsin Horticultural Society:—

Resolved, That we, as a society, fully endorse the statement of the address, to which we have just listened: and that we hereby instruct our committee, who have our premium list under consideration, to offer no premiums for wines.

If, then, the late frosts of spring and the early ones of fall nip our vines, and our teeth are set on edge by the sourness of our fruit, let us modify our disappointment by the reflection that the youth of New England are exempt from the temptations which beset those of wine producing countries.

For the New England Farmer.

THE GARDEN IN OCTOBER.

"The morn'ing finds the self sequestered man
Fresh for his task, intend what task he may,"
"Hence summer has her riches, autumn hence,
And hence e'en winter fills his wither'd hand
With blushing fruits, and plenty not his own."

Garden! What is a garden? Enough for our purpose is to say it is a space of land devoted to the culture of vegetables, fruits, herbs, flowers, &c.; and sorry is the farm, farmer and his family, devoid of a garden. It is as necessary that a farmer should understand horticulture, or gardening, as it is that he should understand husbandry—rearing animals, cultivation of the cereals and grasses, and their preparation to become fit food for man and beast. Many are too apt to think that there is something mysterious in gardening; that in order to success, one must either be a professional horticulturist or hire those who make it a profession, too many of whom prove mere botches, doing more injury than good, at an exorbitant salary. There is no better school for the agriculturist than the garden; for gardening is only the science of agriculture reduced to its finest and most delicate state. In it we have to remember that the finer the production, the more care and skill should be bestowed upon it; that all our finest and most succulent plants and vegetables are in an abnormal, unnatural state—the result of high cultivation; and can only be expected to hold their own or improve by continued high culture, care and skill. In the aggregate, large amounts are paid for new varieties of seeds, plants and novelties, from year to year, and yet after a short season of culture—or non-culture—they become no better than the old sorts we have discard-

ed; whereas, had we given them thorough culture and a little care in selection, we might have retained them in all their excellence, if not improved upon the original. A man procures a fine variety of potatoes, a superior kind of squash, or any other plant, vegetable, or fruit; plants it without any regard as to its requirements of soil, location, &c. and then cultivates in the same careless manner, and soon concludes that gardening, fruit-raising, &c., is unprofitable; and that, as for him, it is far better to buy or go without—the latter most likely—than to attempt gardening.

Most farmers might produce garden vegetables and fruit sufficient to give a good supply, in their season, to their families; yet few of them in our own happy New England are well supplied with the most common varieties. Why is this so? Our answer is, simply, they do not give sufficient attention to diversified productions of the farm and garden. We are glad to notice that much is being done through the influence of Agricultural and Horticultural papers, as well as by societies and individual example, to induce greater attention to the culture of gardens by our rural residents.

The season for the cessation of direct labor in the garden is rapidly approaching, and what remains to be done should be done at once, for there is no forecasting what a week may bring forth. Besides the harvesting of any remaining crops before freezing, there is much that may be done to enhance another year's profits. First in importance are the destruction of weeds and their seeds; digging and hauling muck, soils, woods-mould, &c., for composting, or for winter use as absorbents, deodorizers, &c., for making manure, the secret of success in growing nice vegetables and fruits. Overlook no source of supply from which material may be drawn to add to the compost pile, and you will be astonished at the amount next spring.

ASPARAGUS.—Time is gained, and other advantages are obtained, by sowing the seed or setting the roots early in fall. The deeper and richer the beds, the better. Remember, an asparagus bed once made, is made for a life time, and should be thoroughly done. A good bed is profitable; a poor one unprofitable.

BETS should be harvested and stored before freezing weather; dry them before storing.

BLACKBERRIES.—New plantings may be made this month, soon as the leaves fall from the plants. Enrich the soil with a compost of leaves, turf and well rotted manure.

CABBAGES.—These may be wintered by setting in trenches, the heads even with the surface and covered with stalks, straw or other coarse litter, with a board or two over them, so they may be reached during winter; or they may be set in trenches, heads down, and covered with five or six inches of soil. Plants

for wintering may be set in cold frames, inserted down to the leaves, set close together.

CELERY.—Remove any decaying leaves, and earth up with dry earth before freezing. Celery must be kept dry and cool, but free from frost. Care must be used to keep dirt from getting between the leaves into the centre, as it is apt to injure it in several ways.

COLD FRAMES may still be made in time for profitable winter use.

GRAPES.—Gather late varieties as fast as ripe; remove defective berries, and save by packing in boxes, in a dark cool place, with grape or fern leaves between the layers. Diamas, thus packed, may be kept till grapes come again, where an even, cool temperature is maintained. Vines may be pruned soon as the leaves fall. It is claimed by some European vineyardists that the vine is more fruitful if pruned in September. A. S. Fuller says he prunes in December. With my own vines, I have best crops by pruning in February. This may be from greater age, or something else, in the vines or season.

LETTUCE sown last month, will now be large enough to transplant for permanent growth. Transplanted into cold frames over a bed of leaves or spent manure, will enable one to enjoy this salad all through the winter, with a little protection and care in guarding against frosts.

ONIONS.—Seed sown in very rich, light soil, in drills a foot apart, with a light protection of litter, will start very early in spring.

PARSNIPS, wanted for winter use, may be dug just before the ground closes in and be packed down in sand in the cellar: which is the best way for preserving roots of any variety for domestic use. Leave others in the ground where they grew, as they are sweeter in spring, thus preserved.

SALSIFY.—Treat the same as above directed for the parsnip.

SPINACH.—Thin out young plants and give light protection of leaves, &c.

STRAWBERRY BEDS.—Give protection of evergreen boughs at the approach of cold, freezing weather. A sprinkling of the beds with good hard wood ashes will be a benefit, inducing greater fruitfulness in future.

TOMATOES.—Where these have not been already cut by frost, they may be still longer preserved by covering the plants, or by pulling the vines and hanging them in a warm, protected situation. Fruit set and partly grown will thus often ripen up, and may be enjoyed for some time. Small, partly grown fruit, makes excellent pickles, mixed with peppers, &c.

TURNIPS improve greatly after cool weather, before freezing, in the ground.

W. H. WHITE.

South Windsor, Conn., 1871.

KNOWLEDGE REQUIRED IN FARMING.

There are many who look upon farming as rather a small business, who think that its successful prosecution requires only a little common sense—just enough to prompt the hardy worker to seek shelter in a rain storm, and a very little knowledge just sufficient to count a flock of sheep, or read a political newspaper. This opinion was once more general than now, for the world is growing wiser, yet at the present time it is entertained by many. It is an old and true saying, that "honor and shame from no condition rise," that honor is only acquired by acting well our part in whatever situation we may be placed. A man of ability and knowledge who devotes all his energies to his business will make it honorable and profitable no matter how insignificant that business may at first seem.

There is no business requiring such varied acquirements, so much knowledge, so much good judgment and commercial ability combined, as is necessary for the thoroughly accomplished farmer. He stands first among the manufacturers of the land, he makes the wheat and corn, the beef and mutton and pork, the wool and flax; and manufactures from the earth, the air, the water nearly all that we eat and wear; and this is not only done by farmers as a class, but almost every one produces many if not all of these articles.

The manufacturer usually confines his labors to the production of one article, but the farmer is by necessity compelled to make many. If he would make grain he must also make beef or butter and cheese, or mutton and wool. Hence the necessity of extensive knowledge. It is an easy matter for the manufacturer to ascertain how much wool will make a yard of cloth of a certain description, and what will be its cost; but it is not so easy for the farmer to ascertain how much grass or hay or grain will make a pound of wool. The manufacturer can test a new machine and ascertain by a few simple trials whether it will manufacture the desired article cheaper or better than the old one; but to ascertain how a pound of beef can be made the cheapest, what machine will convert hay into rich cheese in the cheapest and best manner, is a matter requiring a good deal more care and skill.

Among his varied acquirements, the farmer should possess a knowledge of animal physiology, so as to be enabled to keep his stock in health and administer proper remedies in case of sickness. Vegetable physiology too must not be overlooked. Every day during the growing season, the farmer performs work for the growth of his crops founded on the known laws which govern vegetable life. Entomology is a science which the farmer is compelled to study to some extent, and often much more perhaps than he desires, but the more he does so the better he is fitted to wage

a successful war against thousands of destructive foes.

In addition to all this, the farmer must be a merchant, for he must sell as well as manufacture. He must in some measure take advantage of the rise and fall of prices, select the best time for selling and the best market, or after all his toil and anxiety he may find but a poor return.

When we coteemplate this subject, of which we have merely glanced, in all its bearings, we are led to exclaim, Who is competent to this work? Heartily do we pity those who think that farming furnishes no scope for the exercise of knowledge or ability. If this opinion were entertained only by those engaged in other pursuits, it would be of no serious consequence; but we judge that many farmers have themselves imbibed such unfounded and unjust opinions in regard to their calling, and where this is the case there is an end to all improvement and all desire for improvement. A man must have a good opinion of his calling, a proper appreciation of its importance and the means and information necessary for its successful prosecution or he cannot hope to succeed.—*A. J. D., in Ohio Farmer.*

THE WILSON STRAWBERRY.—I have known the Wilson for many years, have eaten it ripened in western New York, in Cincinnati and in Missouri, and I do not hesitate to say that, when fully ripe, it surpassed in flavor the Hovey, Russell's Prolific, Agriculturist, and is fully equal to the Jucunda or Triomphe de Gand. And for size and beauty of form, I think it surpasses, at least in this section, either of the above varieties. The fact that this berry colors early and looks fit to pick at least a week before it is ripe, has induced many to condemn it as an amateur fruit. Let any of your readers try the experiment of leaving the Wilson unpicked till it assumes a rich, dark color, and then try it with any of his favorites, and I believe he will find that for size, richness of flavor and general acceptability, it is hard to beat.—*Cor. Rural New Yorker.*

REMEDY FOR BONE SPAVIN.—I have found the following remedy entirely successful, applied to a mare I have. She was spavined three years ago, and had been lame about two months when I began to use this remedy. I applied it about three weeks, and cured it so that she has not been lame since. The enlargement of the joint remains the same as when using the remedy: Take cantharides, 1 oz.; mercurial ointment, 2 oz.; tincture iodine, 1 1-2 oz.; turpentine, 2 oz., corrosive sublimate, 1 1-2 dr. Mix the above with one pound lard. Clip the hair on the enlargement and apply for three days. Then wash clean with soap suds and grease it for two days; then apply the remedy again as before.—*S. S. Gardner, in Rural New Yorker.*

For the New England Farmer.

DRAINAGE OF DRY LANDS.

I am much obliged to "Fireside Farmer" for his very courteous reply, in the *FARMER* of August 5th, to my inquiry in regard to the drainage of Ex-Governor Smith's dry land, alluded to in a previous number.

I have oftentimes thought that much misunderstanding exists in men's minds by not knowing just the idea that the writer intended to convey. In the case of "Fireside Farmer," the land he operated on in England is described as "light, loamy clay, very gritty, and a part of it almost what would be called gravel bed." Now, this to a New England mind may convey but a very imperfect idea of the kind of land operated upon. If he would tell us how many months in a year his drains discharge water, it would give us a better idea of what is considered light land in England, where the humidity of the atmosphere is greater than it is here; and, consequently, the amount of water to be got rid of, either by drainage or evaporation, is greater.

The larger part of the land which I cultivate is what is called gravel bed, of so porous a texture that we are not obliged to wait any length of time for it to dry, after a rain, before we can work it. I suppose that the largest part of the land which we cultivate is of so porous a texture that if it was trenched and drain pipe put in, there would be six or eight months in the year that they would discharge no water.

One of the results of the drainage of the land in England, he says, was to render it porous. The great trouble with much of our land is that it is already too porous; and, as a consequence, I sometimes pass a roller over it to make it more compact.

Another result which he claims for his drainage is not so obvious to my mind; and that is it gave it power to retain a healthy quantity of water at a depth where plants could reach it, and in a position where it could not be evaporated by the heat of the sun. In our climate, we are obliged to lay our drains three feet deep, generally, in order to get them beyond the effects of frost. As I cannot suppose that there is much of a reservoir short of that depth, I think it would be rather hard for the roots of many plants to find their way down so far in search of moisture.

Now, I am quite an advocate for under drainage. I have done a little of it, and always with very satisfactory results. Indeed, I once put one through a very porous piece of land, to drain a cellar, and though a drop of water was never seen to pass through it,—that from the cellar always settling into the loose gravel before it got through,—yet like Governor Smith's drained dry land, the grass over the drain was much better than on the adjoining land.

But I have a theory about it more satisfac-

tory to me than under-drainage. My theory is, that if all our gravelly soils were trenched to the depth of four feet, and two feet of this space filled with small stones and covered with the surface soil, it would be greatly benefited by it. The stones absorb no water, but they condense the moisture that is brought up from below, and hold it, as a kind of reservoir, to be parted with as evaporation goes on from the heat of the sun. In this case, instead of having four feet in depth of this dry gravel to saturate, we have but two. In accordance with this idea, then, I consider under-drainage is a misapplication of terms.

I make these remarks because I think drainage is sometimes made a hobby of, and being recommended in localities where common sense indicates it to be useless, there is danger of prejudicing the minds of farmers against the drainage of land where there is an injurious excess of water. It is the dissemination of *correct* views which we should aim at.

I would like to ask "Fireside Farmer" if he thinks that, under our present laws for the division of real estate, with no law of primogeniture in force, with land held in small parcels, which is being continually subdivided, and with a government that stands aloof from such works of improvement, any very extensive system of under-drainage of dry soils will be likely to be undertaken? I also wish he would tell us how it is that a tenant in the old country can afford to carry out such expensive (or what would be considered so in this country) systems of drainage, while here we think that it can be done only by those who have means outside of their farms. I presume he is abundantly able to give us information on these subjects, and I hope he will be disposed to do so.

J. L. HUBBARD.

Peabody, Mass., August 16, 1871.

For the New England Farmer.

FACTS AND SUGGESTIONS.

Condition of Farmers—Value of Swamp Land—Sowing Manure—Restoration of Exhausted Land—A Home-made Fertilizer—A Hopeful View.

It is now the third year of the depreciation of the hay crop with most of high ground farms of this and other New England States,—not more than half a crop, compared with last year, with yet another short crop booked for the future; as, let it be ever so wet, the grass roots are past restoration in one year. Hay being the most remunerative source to the farmer at this time of the low prices of cattle, how can the old fashion farmer stand the strain of high taxes and high labor?

A new era of farm management must soon be entered upon or the *NEW ENGLAND FARMER* and other agricultural papers will reap a golden harvest for advertising "Farms for Sale," with comparatively few buyers. A few of these improvements I will mention as they come to mind.

First, get up a high estimate in your own brain of every acre of unsightly swamp land that you may possess, though heretofore it may have been counted worthless. After a little engineering, strike a deep ditch through its lowest outlet, bring to light those inexhaustible stores of richness collected from the high lands since the days of the antediluvians, by draining it dry; pull all the stumps, trees and bushes from its surface; plough it; sow on from 20 to 50 bushels of lime to the acre to correct its acidity, and sow thickly with timothy. One acre shall produce more than the best five of high and dry field land, in all these years of continued drought, without the need of 25 ox-loads of barn-yard manure to the acre, to be felt only three or four years.

If the farmer is not afraid to take exorbitant interest on his money now invested in banks, railroads, and government bonds at from six to ten per cent, let him draw it from these and other places of investment and receive, in this case, one hundred per cent.

I have cleared about two acres of such swamp land at a cost of about \$50. Though not yet ploughed or reseeded, it pays me this year the interest on \$500 at 6 per cent. A neighbor of mine having improved four acres of swamp, cuts this year of short hay crops, 10 or 12 tons of the best of hay without any prospect of immediate depreciation.

Another improvement in farming may be made by those who have not already done so, by hauling in turf, loam, swamp mud, mixed with lime, into the barn-yard, barn cellar, hog yard, and under sink spouts, thereby saving all the manure that can be secured in this direction.

And yet, in my opinion, for a farmer to think to bring up an old exhausted farm to a high state of fertility by barn-yard manure alone, made on his own farm, is like a man's stepping into a basket and attempting to lift himself by the handles. While he is bringing up one acre, two are running down.

A home-made phosphate may be had at a cost of not more than \$20 a ton, by taking at the rate of 100 lbs. of raw ground bone, 100 lbs. wood ashes, 100 lbs. plaster, wet into a soft mud, to stand some days and then dried off by as much more dry dirt scraped out from under buildings containing nitre, or by nitrate of soda at \$9 per hundred. This composition contains all the four bases of plant food, according to Professor Ville's theory. This composition is in part my own discovery, and is within the reach of every farmer. I have tested it during the last year so far that I feel authorized to say that an acre of land can be manured at a cost of five or six dollars, equal to that which receives 20 or 25 ox-loads of barn-yard manure.

I cannot close this short article without a word of exhortation or of encouragement to the farmers of Maine, New Hampshire, and other states in the Union, where drought,

grasshoppers, and short crops are the order of the day. As the purposes of the Divine mind only tend to the good of the creature, these years of continued drought tend to fertilize the soil, drawing the nitre to the surface of the earth where it helps to feed the vegetable world, while continued rain would carry it and keep it below the reach of roots of plants. The earth is also enriched by the action of the sun, as it is well known in England that land ploughed and suffered to remain uncultivated through a summer's sun is improved in fertility. That the earth is similarly improved by these years of drought is evident to every observer, by the noticeable fact of the great amount of butter-cup or crows-foot that covered hill, dale, and pasture the present year, where it was not seen before. As this plant is found only in the best and richest soil, we argue that the earth has become more fertile for the drought, and will again more than compensate the agricultural world for its losses, crosses and disappointments, when the wet seasons, in their astronomical rounds, shall again visit our globe. M. J. HARVEY.

Epping, N. H., 1871.

HOW TO GET PLENTY OF FRESH EGGS.

In a long communication to the *Germantown Telegraph*, upon the subject of poultry, Mr. E. Dwight of Hudson, Mich., considers the question "How to get plenty of good-flavored fresh eggs with little trouble," and thinks if there is any secret in it, he has discovered it, and makes the same public for the benefit of all interested. He says:—

"Once, thirty years ago, I was troubled just as my neighbor now is. I fed my hens plenty of corn and got but few eggs. I reasoned upon the matter, and happened to think that the constituent parts of milk and the white of eggs were much alike. Now, it has long been known to milkmen that wheat middlings and bran are about the best of any feed to make a cow give milk; why not then the best to make the hens lay eggs? I tried it, and since then have had no trouble. My mode of preparing the feed is to mix about five parts of bran with one of middlings. In the morning I wet up with water about four quarts of the mixture in a large tin pan, taking pains to have it rather dry, though all damp. This I set in a warm, sunny spot, south of their shed, and they walk up, take a few dips, don't seem to fancy it like corn, and start off on a short hunt for something better, but always coming round in a short time for a few more dips from the dish of bran. There is little time during the whole day but what one or more are standing by the pan, and likewise helping themselves.

I am careful to mix for them just as much as they will consume during the day. At night, just before they repair to the roost, I

usually throw them about a pint of shelled corn, well scattered, so that each one can get a few kernels. If your hens don't incline to eat this feed at first, sprinkle a little Indian meal on top. I would like all who complain of not getting eggs to try my plan, and I think they will never be sorry."

CORN vs. HAY.

There is no doubt that the hay crop of New England is very small. In many sections of Maine it is nearly a failure. Take it as a whole, it may be as small as in the scantiest years hitherto. In most places the price of hay has advanced beyond precedent, and almost a panic prevails. I was lately told of three cows being given for one to be returned next spring, and of cattle being sold for \$10 and \$20 which would have commanded five times as much within a twelvemonth; cases are of daily occurrence where they are sold at prices ruinously below the cost of growing them.

Such being the facts of to-day, I beg to offer through your columns, a few suggestions; and the first is, that this calamity, like others permitted by a Wise Providence, has its compensations. Among them a very large one is the promised abundance of the corn crop. The prospect is such that the price has been receding rapidly for some time, and corn can now be had in Chicago for about forty-two cents per bushel. To this twenty or even thirty cents can be added for transportation, and yet a ton can be laid down in Maine for less than the current price of a ton of hay. At seventy cents per bushel of 56 lbs., 2000 lbs. would cost \$25. What may be the comparative value of hay and Indian corn we will not attempt to state with precision. There is more difference in the feeding value of what is called "hay" than there is in that of marketable corn. Some hay is worth a *great deal* more than some other hay. It is held by our farmers generally that a pound of corn is as good as two pounds of average hay; that twenty bushels of Indian meal, weighing 1000 lbs., will go as far in wintering cattle as a ton of hay; some think twelve or fifteen bushels to be as good as 2000 lbs. of English hay. If these estimates be near the truth, it would appear that the equivalent of a ton of hay can be had in Indian corn for \$10 to \$15, while the hay is held at twice as much, or more.

My next suggestion is that instead of selling cattle at the prices they now bring, they be kept over till spring, using, if need be, as little hay and as much purchased concentrated food as will answer a good purpose; and instead of barely carrying them through alive winter them so well that when put to pasture next spring they will begin at once to thrive, and keep on steadily thriving, and not lose a considerable part of the season in making up winter losses. There is small danger of so

many following this method as to glut next year's market. The prospect is fair that the operation would pay handsomely. Indeed it would if every farmer in the State should adopt it. I am aware that the mass of Maine farmers are not in the habit of buying commercial manures for their hungry lands, nor commercial articles of cattle food for hungry stock, except to a very limited extent; but the suggestion is offered that the present is a particularly favorable opportunity to break up the habit which has prevailed extensively, of depending so exclusively upon hay. This is an age when old notions and old practices upon many matters are being broken into as never before, and I believe that one part of the design of a wise and loving Father in dispensing so scanty a crop of hay this year is to teach us much needed lessons, one of which, if we learn it well, will be of more profit to us than any two crops which were ever harvested in the State.

The idea that a farmer can, and may with advantage, as often as the years come round, buy materials to be manufactured into crops and cattle, is novel to American farmers, but it is an old one to farmers in old countries; in fact, it is *the* method by which British farmers make the *business of farming* so profitable. They do not live upon what they *earn* so much as upon the profits of their business transactions. They buy manure and sell grain; or they buy grain or linseed or cotton seed cake, or Carob beans or any cattle food which the world will sell at paying prices, and sell meat, butter, cheese, &c.

Another thing; when the English farmer buys cattle food, he does not, ordinarily, expect to get back all the purchase money directly. He knows very well, as an every year's transaction, where competition is as close as what he has to encounter, that this can be expected only in rare cases; but he does expect to get the balance, together with all the profits, in the means of increased fertility for his own lands.

The manure question is one which is much talked of and much thought of, but too little done about. One way, and under given circumstances, the best way to buy manure is in the form of cattle food. Poor fodder makes poor manure; scanty fodder poorer still. Poor manure insures poor farming and short crops. Lean, hungry, run-out fields feel drought and all other drawbacks, as well-fed fields do not.

Honesty is good policy in dealing with neighbors. It is equally good policy in dealing with one's self and one's own possessions. Our lands have long been drawn upon for what goes to make bone, and hides, and muscle (and these are far more exhausting than what makes fat) and we have made small returns, greatly insufficient to make good the draft. We have sold and sent away that which constituted the virgin fertility of Maine

soils; we have brought little back to them. Reckoning day is sure to come. In fact, part of the bills for damages are presented this summer. With them comes also a rare opportunity to buy as much as we will of the fertility of Western prairies and put it upon our hungry fields. Why not not buy liberally? —*S. L. Goodale, in Maine Farmer.*

THE PEAR TREE BLIGHT.

Does anybody know the cause of the blight, and the remedy therefor, which is destroying so many of the best pear trees? It attacks only a branch or a twig at a time, and when it first strikes, the leaves look as if they had been scalded. The sap speedily dries out of the leaves, and the limb dies. The only remedy we know of, thus far, is amputation of the diseased part. This does not protect the rest of the tree, while it is a severe remedy that spoils the shape and looks of the tree, and makes the owner's heart ache. Who knows of a better remedy? Many an anxious owner of fine pear trees, which begin to show signs of the coming fate, would like to know.

Our attention was called to this, a few days ago, by Mr. Sherwood, whose trees are suffering severely. One of his neighbors had a tree attacked in the same way, and supposed it had been struck by lightning, so strangely did the branches wither. More recently Senator Hubbel showed us six or eight valuable trees in his fine garden which are perishing with the blight. From the way in which a single twig or limb first begins to wither, we are inclined to attribute the blight to some local cause. We carefully examined several limbs, and found some of them had been attacked by a very small worm or insect, which not only perforated the bark, but in some instances had completely girdled the limb by eating round it under the bark, next to the wood. Is this what causes the blight? If so, will an application of carbolic acid, as soap-suds, or in some other form of wash, prove a remedy? Will its use early in the spring and at intervals afterward prove a preventive? Or does the insect or worm hatch from a nit laid in the bark? Who can throw any light on the subject? If some remedy and preventive is not soon discovered, we fear our pears and next our apples will follow our plums.—*Utica Herald.*

SHALLOW SEED-BED FOR WHEAT.

Mr. C. L. Olmstead, of Le Roy, Genesee County, N. Y., after long experience, favors the plan of sowing wheat after corn without ploughing. The theory is—and it is held by many of our best wheat growers, F. P. Root among the number—that in a shallow seed-bed the roots are more in number, and spread out near the surface. Consequently they rise and fall with the surface soil, under the opera-

tion of freezing and thawing in late winter and early spring, the time which so sorely tries wheat. If the ground is made mellow deep down, the tendency of the plant is to form a tap root with few laterals. When the surface is lifted with the frost, this root is broken off, and the plant is left on top to die, when the ground settles again to its place. Mr. C. L. Olmstead prepares all his corn ground for wheat, with the harrow alone. Last year his corn stubble was carefully ploughed for wheat, with the exception of a strip twenty-five feet wide across the field, which was harrowed. It was all sowed at the same time and in the same manner. The wheat on the dragged strip was much heavier, and every way better at harvest than that on the ploughed land.—*Rochester Rural Home.*

CROSSING LONG WITH SHORT WOOL SHEEP.—You ask for experience in crossing long with short wool sheep. I will give you mine. Two years ago I selected forty large Merino ewes, and served them with a Leicester buck. The lambs were large and did well. No trouble about the ewes giving milk enough.

Last year I used the Leicester buck to all my Merino ewes, and this summer find more or less small lambs from small and young ewes. I made this cross to get larger sheep, as my sheep were getting too small. My last year's lambs which I sheared this summer averaged four pounds per head, which is rather light shearing.

I had had some experience a number of years ago in crossing the long wool ewes to Merino bucks, and I think the results were more satisfactory than the crossing of fine ewes to long woolled bucks. This I think the proper way to cross, if one is not satisfied with the long wool in its pure state.

I think that the fine buck with the coarse ewe can be followed up for a number of crosses; at least four or five, before the sheep became too small to be profitable mutton sheep, with a continual increase in the shearing qualities.—*Cor. Western Rural.*

GETTING WET.—*Hall's Journal of Health* sensibly discourses:—Summer showers frequently overtake persons and "wet them to the skin;" it is then safer to walk steadily and rapidly on, until the clothes become dry again, than to stop under the shelter and remain there still until the storm is over. If home is reached while the clothing is yet wet, take some hot drink instantly, a pint or more; go to the kitchen fire, remove every garment, rub the whole body with a coarse towel or flannel, put on woolen underclothing, get into bed, wrap up warm, and take another hot drink; then go to sleep, if at night; if in the day time, get up in an hour, dress and be active for the

remainder of the day. Suppose you sit still in the damp clothing; in a few minutes chilliness is observed, the cold "strikes in," and next morning there is a violent cold, or an attack of pleurisy or pneumonia which, if not fatal in a week, often requires weeks and months and weary years to get rid of. The short, sharp rule should be, if the clothing gets wet, change instantly, or work or walk actively, briskly, until perfectly dry.

WATERING SHEEP.—A correspondent asks if it is necessary to furnish his sheep with water. We answer, Yes. Not that they will not live without it, for we have known them to be without drinking for a month, and apparently suffer but little if any inconvenience. But we have also noticed that where they have access to good, pure water, no animal resorts to it with more regularity, or partakes of it with more seeming satisfaction. Especially do we think it important that ewes with unweaned lambs should have water within easy reach. We speak of good, pure water; for not only sheep, but all other animals are only injured by the poisoned, stagnant water afforded by ponds and holes during the hottest season; and if they have to die, we don't know but it had as well be by famine as the equally sure method of poison.—*Western Rural*.

EXTRACTS AND REPLIES.

DISEASES AFFECTING RESPIRATION.

I have a heifer which has a cough, and at times seems put to it for breath. When hurried up hill she will run out her tongue and seem in great distress for breath. Can you inform me what to do for her?
ALICE BUSS.

Cambridgeport, Vt., Aug. 19, 1871.

REMARKS.—Before answering the question of our correspondent, we propose to give a brief description of three of the several diseases which affect the function of respiration,—*bronchitis*, *emphysema*, and *asthma*. And we premise with the remark that respiration, the organs by which respiration is performed, the diseases which affect those organs, and the proper remedies for such diseases, are the same in the brute and in the man.

The function of the *trachea* or wind-pipe is to convey air to the lungs, and just before entering those organs it divides into two smaller pipes called *bronchi* or bronchial tubes, one of which branches out to every portion of the right lung, while the other, in like manner, ramifies through every part of the left lung. The trachea and the bronchial tubes, even to the smallest of them, are composed of numerous rings of *cartilage* or gristle, and these rings are connected together and moved by muscular fibres. The smaller bronchial tubes, or extreme branches of the trachea, terminate in numberless little cells in which the purification of the blood, which is the proper function of the lungs, takes place. All of

these air tubes and air cells have their inner surface covered by a thin soft membrane like that which lines the mouth and throat, and which secretes a peculiar substance called *mucus*, and is therefore called *mucous membrane*. These tubes and cells are connected with each other and with the pulmonary arteries and veins, by means of *cellular tissue*, such as is seen directly under the skin and in various other parts of the body. Now, when that portion of mucous membrane which lines the bronchial tubes and cells becomes inflamed, we have a case of *BRONCHITIS*; and when, from violent coughing, excessive running or lifting, or any other cause, some of the bronchial cells are ruptured so that air escapes into the connecting cellular tissue, we have a case of *PULMONARY EMPHYSEMA* or *EMPHYSEMA OF THE LUNGS*; and when, from any cause the muscular fibres of the smaller bronchial tubes assume a state of prolonged or permanent spasm, we have a case of *ASTHMA*.

BRONCHITIS, then, is an inflammation of the lining membrane of the bronchial tubes, and it may be either acute, sub-acute, or chronic. *Acute bronchitis* is generally produced either by the action of cold, or by the action of some morbid agent in the atmosphere. In the human subject, it is commonly preceded by inflammation of the mucous membrane of the nasal passages, which travels downward to the air vessels of the lungs. The cough is at first painful and dry, but after a few days, the patient expectorates a frothy fluid sometimes streaked with blood, which soon gives place to a more free expectoration of a thick, yellowish or greenish matter. As a general rule, respiration is not greatly affected, and the febrile symptoms, are, usually, moderate. The average duration of this form of bronchitis is ten or twelve days. *Sub-acute bronchitis* is only a milder form of the disease, and requires but little attention. *Chronic bronchitis* is a disease of more serious import, and is sometimes mistaken for pulmonary consumption. It is generally a sequel of the acute variety of the disease, and is most common in persons who have passed the middle term of life. The symptoms differ but little from those of acute bronchitis, except that they are less severe, but more persistent.

In regard to the treatment of persons affected with bronchitis, we will only say that in mild forms of the disease, very little need be done, and in the severer forms the patient should be under the care of a judicious physician. If we had a horse, an ox, or some other domestic animal affected with this disease, we should depend chiefly on a free use of an infusion of flaxseed, or some other mucilage, with plenty of nourishing food. We would also keep the animal dry and warm, and give him pure air to breathe.

PULMONARY EMPHYSEMA denotes the presence of air in the cellular or connective tissue of the lungs, and arises from rupture of the air cells.

It is a chronic affection, is unaccompanied by fever and in a majority of cases it is gradual in its development. The most prominent symptoms of this affection are labored breathing (*dyspnoea*), in which the act of inspiration is shortened, and that of expiration prolonged—a hard spasmodic cough, with more or less expectoration; and a congested or livid appearance to the skin, especially to that of the face. In severe cases the *dyspnoea* or labored breathing is habitual, and the patient is unable to take active exercise without suffering for want of breath; but in milder cases, the respiration is disturbed only by exercise; *dyspnoea* is not habitual. The cough occurs in paroxysms, and these are accompanied by much congestion or fullness of the face and enlargement of the veins of the neck. As this affection is often caused by bronchitis, and is generally associated with it in some way, the treatment should be the same as for that disease; and in proportion as the bronchial inflammation is subdued, the patient will be relieved; but pulmonary emphysema itself, is incurable.

ASTHMA, properly, consists in a spasmodic affection of the muscular coat of the smaller bronchial tubes; but the term is frequently, though erroneously, applied to that form of *dyspnoea* which attends certain obstructions in the heart.

The symptoms of asthma resemble those of Emphysema of the Lungs, except that they occur in paroxysms, and the paroxysms are not commonly brought on by exercise. Indeed, asthma is of so common occurrence that its symptoms need not be particularly described, although those of pulmonary emphysema and valvular disease of the heart are often confounded with them.

So many things have been employed for the cure of asthma, or for the mitigation of its paroxysms, that we shall mention but a few of them. In a certain proportion of cases Indian tobacco (*lobelia inflata*), and common tobacco are especially efficacious. They need not be carried to the extent of producing vomiting, for if not effectual when nausea is induced, it will be useless to push them further. The inhalation of the vapor of chloroform or ether is a measure of great value in many cases of this disease; but such remedies should be employed only under the supervision of a physician or some other competent person.

The disease called *Heaves*, which is so common among horses, and which may occur in other animals, is very generally supposed to be identical with asthma in the human subject; and, doubtless it is so in many cases; but we believe that many times it is caused either by emphysema of the lungs, or by a disease of the heart.

We suppose our correspondent's heifer labors under either *pulmonary emphysema*, or that particular form of asthma which results from a dilatation of the heart and obstructed circulation, caused by a diseased state of some of the valves, and called *cardiac asthma*,—probably the latter.

We would advise that the heifer be kept as still as possible, and fed flax-seed tea, with plenty of

good food; and if she does not improve before long, we advise our friend to make beef of her, for neither of the affections, last mentioned, will impair the quality of the flesh—that is, if the disease has not progressed so far that she will not fatten.

J. H. S.

West Brattleboro, Vt., Sept., 1871.

SUMAC.

I see that American Sumac is quoted at \$75 per ton. Now how is it prepared? What is saved? Where is there a market?

U. E. T.

West Cornwall, Vt., Aug., 1871.

REMARKS.—Sumac is prepared in different ways. Only the leaves are valuable. No stems nor other parts of the plant must be mixed with the leaves. They are gathered after attaining full growth and before frost or before they fade or turn red. A correspondent of the *Country Gentleman* says, cut the stalks of the present years' growth and cure them as you would hay, taking care to preserve it from rain and dew, as both injure it same as they injure hay. Put it in the barn and examine it often, for a time, for it will heat and spoil very soon if not properly cured. Let it lie until the weather is very cold; then thresh it. This may be done by throwing it on the barn floor three or four feet deep and put on a span of horses. They will soon tread the leaves from the stalks. Rake off the sticks and put on another flooring. When the leaves and small branches that do not rake out have become a foot or more deep on the floor, put the horses on to that, and tread and stir it until it is quite fine; then sift it with a large coarse sieve—about half-inch mesh—and it is ready for sacking. Before using, it is ground in a mill somewhat similar to an old-fashioned bark mill. These mills are made in Virginia, and we suppose it is usually sold after being ground and bolted. Sometimes it is spread on lattice work for curing, as it is gathered. In Sicily the roots are planted and cultivated. It is used for tanning morocco and for dyeing and printing calico, and could probably be sold where morocco is made or calico is printed, and in cities where these manufacturers obtain their supplies, but we have no positive information on this point. Richmond, Va., is quite a market for it.

From two to five hundred thousand dollars are paid yearly for imported sumac, and until recently it was supposed that the American shrub was worthless. But it is now demonstrated that the sumac grown in Virginia is equal to that imported.

The Washington Agricultural Report for 1869 has an article on the subject, with analyses showing the amount of tannin, &c., it contains, with a promise of further information in the Report for 1870, which may be obtained when published! We think we have seen a statement to the effect that the sumac grown at the north was less valuable than that grown in Virginia and other Southern States, but are not able to refer to it now.

We hope these remarks will call out a more intelligible reply to the questions of our correspon-

dent. A good article of sumac, properly prepared, brings double the sum named by H. E. T.

MEAL FOR MANURE.

It was stated in the *FARMER* some weeks since that the tobacco farmers of the Connecticut valley were using corn, barley and other meal for manure. As the price per pound of such substances is much lower than that of most of the commercial manures, as the chance for adulteration is vastly less, and as there is no trouble in getting them at a fair market price anywhere, we should feel much interest in the statement of men who have used them in regard to their working.

Cotton seed meal is said to make a richer manure when fed, than corn or wheat. I have just top-dressed two square rods of grass ground, one with twelve and one-half pounds cotton seed meal, and the other with same amount corn meal. This would be equal to one ton, or forty bushels per acre. These grains contain all the elements necessary for plant food. They are easily obtained and applied. It seems to me reasonable to suppose that these substances would make a cheaper and more reliable fertilizer for hill application than any of the guanos, poudrettes or phosphates in the market.

It is not too late for experiments to test their fertilizing value in some measure this fall, on winter grains and mowing lands. F.

Franklin, Mass., Sept. 4, 1871.

REMARKS.—The following paragraph, clipped from the *Springfield, Mass., Homestead*, is the only report of the results of experiments in the use of Indian meal that we have seen. Mr. L. G. Curtis decided when he cut his tobacco, that the crop where he used the Indian meal was worth one-third more than it was where he used the same worth of other fertilizers. He has been trying different modes of enriching his land for several years; has used hay ploughed in, and sometimes ploughs in a crop of rye, green, both of which have given good satisfaction.

TIME AND MODE FOR TRANSPLANTING CEDARS.

I would like some information in regard to setting cedar hedges. Can it be done in the fall,—September or October, safely; and how far apart in the row should they be set? A SUBSCRIBER.

Jericho, Vt., Aug. 30, 1871.

REMARKS.—We have had the best success in transplanting evergreens late in the spring, about the time the buds are well swollen. In England the fall is considered a favorable time; but their winters are very different from ours. But at whatever season evergreens are transplanted, we think it very important that the roots should be exposed to sun or light as little as possible. Out of the ground, the roots of evergreens are almost as much out of their natural element as a fish is when out of water; and the one will die almost as soon as the other, when thus exposed. Transplanted in a rainy or cloudy day, or by night, with a good ball of earth attached, cedars might live if removed in the fall. In most soils the cedar is liable to die out near the base, and give the hedge a bad look. The distance apart of the plants should be determined, in part at least, by the height you intend the trees shall be allowed to attain. In his book

on Evergreens, Mr. Hoopes recommends twelve to fifteen inches for arbor vite, henlock, &c., and for pines, &c., for a large hedge or screen, three, four and more feet.

FLOWING MEADOWS.

Your correspondent F. of Franklin, Mass., wishes me to give a "chapter on my personal experience in regard to letting on water to meadows to increase their fertility." In response to which I will say that in 1864 I built a short dam and flowed a small meadow of three or four acres, letting the water remain on all winter. The ice carried the dam off in the spring, and it has not since been rebuilt. The succeeding summer I found the hay crop increased from two ox loads to five; but the quality of the hay was far inferior,—most of the high ground grasses being killed out. Since that time the crop has gradually decreased till the present year, when I have secured only the two ox loads that it usually cut before the dam was built.

My intention now is to ditch dry, plough and reseed with herdsgrass, put down a bulk head again and flow in March or the first of April, one or two weeks, when the snow is going off; the water of which, according to Dana, contains unusual richness, particularly in amount of ammonia. Then draw off dry as possible by means of the ditches before mentioned, and the quality of grass will not be injured, and the fertility will be kept up forever without top-dressing with compost or leached ashes or any other manure whatever, so long as this annual flowing and draining shall take place.

I should advise F. not to heed the warnings of his neighbors that "the land will be made sour." If such should be the case, a few bushels of slacked lime to the acre, sown broadcast, at a small cost, will be a complete remedy. But does the annual flooding of the earth by fall rains and melting snows make "the land sour?"

SALT FOR CATTLE.

Another of your correspondents has taken the ground that salt is injurious to cattle. The present summer I found a valuable ox dead in my pasture where I keep salt in a trough most of the time. The ox was perfectly well, so far as I knew, the last time I put salt there, and from appearances, he must have died soon after. Some of my neighbors think that he died from eating too much salt. But if such was the case, why did not more of the twenty-two head that were in the pasture die also? I have, however, since discarded the trough, and put down a handful for each head on the ground. Will some of the correspondents of the *FARMER* give an opinion, with facts, relating to the above? *Epping, N. H., 1871.* M. J. HARVEY.

OLD ROSE BUSHES.—A subscriber sends the following on the management of old rose bushes to the *New York Observer*: "Never give up a choice but decaying rose bush till you have tried watering it two or three times a week with soot tea. Take soot from a chimney or stove in which wood is burned, and make a tea of it. When cold, water the rose with it. When all is used, pour boiling water a second time on the soot. The shrub will quickly send out thrifty shoots, the leaves will become large and thick, and the blossoms will be larger and more richly tinted than before. To keep plants clear of insects, syringe them with Quassia tea. Quassia chips can be obtained at an apothecary's."

A GOOD FARM AND A GOOD FARMER.



ood farms, we find, are not always cultivated by good farmers. On such farms, the proprietors are generally enabled to make a fair living, in virtue of the generosity of the soil itself, rather than from

any special skill in their cultivation or management.

During our June rambles among the farmers, it was our good fortune to find upon one of the old estates in Rockingham County, N. H., a whole-hearted, industrious and liberal farmer, owning and managing an excellent farm. There are many such, no doubt, but there are many more who are not such.

MR. WARREN BROWN, of Hampton Falls, N. H., owns and occupies the estate upon which he exercises his skill. He is still a young man, not having arrived at middle life. The farm contains 300 acres. Of this, 175 acres are in pasture and woodland. In salt marsh, 60 acres. In grass for mowing, 60 acres.

The stock of the farm consists of twenty-three cattle, mostly short-horns or grades of that blood; two horses; thirty-three swine, plenty of poultry and a fine flock of South-down sheep.

The buildings are a nicely-preserved and convenient old-fashioned house, which gave evidence that it had always been in careful hands: a barn 130 feet long, with an ample shed its whole length on one side for the farm-carts, wagons, rollers, &c., and on the other side sheds for hog-yards, manure, and especially as a deposit for a large amount of vegetable matter, which is converted into fertilizers for the fields.

Besides these principal buildings, there are ample wood and carriage houses, granary, and a large vinegar and boiler-house. Some 500 barrels of cider were stored in the vinegar-house last fall, a considerable portion of which he purchased.

Mr. Brown stated that his constant and persistent effort is to accumulate manure. This is his object in keeping swine. These are always supplied with muck, rich loam, and

every sort of vegetable matter which they can work over and make available as a fertilizer. The droppings of the stalls are thrown into sheds, where they are worked over and mingled with each other by the swine. If the pork sells for the cost of keeping, his object is attained with regard to this branch of stock.

In addition to this source of fertilizing agents, he has purchased and used upon his own farm 8,000 bushels of leached ashes during the past ten years, and has brought into his town and sold to farmers there as much more during the same period! He styles himself "the manure man," firmly believing that profitable farming consists in getting large crops from comparatively small portions of land. As a help in this direction, he has laid about 15,000 tile! In passing through a large field most luxuriantly clothed with herd-grass, two or three members of the party remarked that less than ten years ago a portion of it was full of springs, a stony quagmire, cold, sprinkled with hassocks and coarse water-grasses, and its appearance in every way worthless and disagreeable. The water from many acres above, came down upon it from the surface, and through the year was oozing out from the higher portions. This kept the lower portion continually wet, and formed a congenial home for the plants mentioned, and for the croaking and slippery animals who prefer such surroundings!

Now the ground was covered with herd-grass just coming into bloom, and so thick as to impede our passage through it! Thanks to the drainage, the ashes and the work of the swine. He had laid stone drains, but did not think them economical. His tile drains work admirably, and when once well laid he considers the work done for many years.

Butter is made by the family. Much of the farm work is done by two pair of stalwart oxen.

He sells fifty tons of hay yearly, and thinks he will be able to sell a hundred tons annually, and at the same time keep his present amount of stock, when his practice has been continued through a few more years. That is, by the continued use of the leached ashes, in connection with heavy manuring, he will be able to double the present crops.

This, we think, he will not be able to do on most of the fields over which we passed, but

may accomplish it on lands which have not yet been much worked.

In accordance with a practice which has prevailed to a large extent over New England, he formerly broke up grass lands, manured, planted with corn and potatoes, and then seeded to grass with some kind of grain. Contrary to the commonly received opinion, he thought this course *exhausted the soil*, and was not a good preparation for the grass crop.

With these views, he ploughs in August, manures, pulverizes finely, uses leached ashes, sometimes a hundred bushels to the acre, sows the seed liberally and then rolls the land.

After all, so much depends upon the nature of the soil, that a practice which has proved highly successful on one farm might not be at all applicable on a farm immediately adjoining. Mr. Brown's farm is natural grass land; a moist, heavy loam, commonly called a granite soil. Such a soil is undoubtedly better adapted to grass than a sandy loam; and in a region where hay is in demand, may be devoted to grass more advantageously than if employed with most other crops.

On the other hand, we are inclined to think that on lighter loams a proper rotation of crops, well manured and tended, would afford more profit than by turning over the sod and reseeded at once with grass.

Two or three other things come to the aid of Mr. Brown which most of us do not enjoy. He inherited a tract of excellent land; some of it in good order; other portions had never been reclaimed. The buildings were in fair condition, and along with these a sufficient money capital, we understand, to manage the estate as he pleased. All these he has economized, and adding to them industry and skill, has probably increased the value of both.

Then he has sixty acres of salt marsh. This needs no re-seeding, ploughing or fencing. Taxes upon it are light, and the only cost of its products are the cutting, making and hauling.

What this hay is worth in the barn per ton we do not know. Perhaps half the value of the best upland hay. Some of the marshes produce a ton to the acre; but if only one-half that, there are thirty tons,—equal to the whole crop harvested on a great many of the New England farms!

These are advantages which most of us have

not realized, but advantages of which he has made good use, husbanding them with ability and skill, and proving what the soil is capable of producing when generously managed.

With his fine farm, amiable family, pleasant garden and other attractive surroundings, his is a true home and the "gateway to heaven."

BROKEN HORN.—In reply to an inquiry by a correspondent who had replaced the shell of the horn of a heifer which had been knocked off, whether it would re-fasten and do well, Dr. Horne, of the *Western Farmer*, replies that it will not, any more than would a finger or toe nail. He says that he has treated several cases of the kind and that his method of treatment, is to procure from ten to fifteen feet of clean cotton cloth, not new cloth; let it be torn in strips of one and one-fourth inches wide, the strips carefully sewed together at the ends. Make a bowl of good common starch, as for shirt bosoms; besmear well the bandage; roll it up, and wrap the pith of the horn, from base to beyond the tip. After it is well dried, cover with a coat of tar, or pitch. Protect from further injury and leave the rest to nature, and the horn will be reproduced.

HIGH PRICE OF HAY.—We can recall several instances in which there was a general alarm about a scarcity of fodder in hay time, which was followed later in the season by an abundance and much lower prices; but we do not now remember a single instance in which unusual high prices thus early in the season were sustained throughout the year. These results are undoubtedly the effect of causes. In an apparent scarcity of fodder farmers save much that would not be saved in apparent plenty; they reduce their stock; perhaps small crops are more nutritive in proportion to bulk than large ones; perhaps, too, there is less difference than to our excited senses there appears to be; an unfavorable spring and summer may be followed by a favorable fall and winter, &c. Therefore, it would not surprise us if hay should prove to be more plenty later in the season than it appears to be now; nor that it should be cheaper in the winter than in the summer.

PATENT RIGHT SWINDLERS.—A correspondent of the *Mirror and Farmer* says that some of these swindlers have recently visited Ascutneyville, Vt., and "taken in" some of the people there. A wealthy farmer was induced to give them his note for \$70. But on sober, second thought he mistrusted it was a swindle, and immediately followed them, demanding his note and three dollars for his trouble. This they concluded to do. He then told them they might leave town if they would give him ten dollars more. They forked over the money and left.

For the New England Farmer.

CAST IRON HAND CIDER MILLS.

A correspondent (S. C. Pattee,) in an article published in the *FARMER* last fall, makes inquiries regarding cast iron hand cider mills, and gives his experience as far as he has observed, which is so unlike anything known in this vicinity, that I am induced to offer a few remarks. He inquires first, Are they practicable for common use? Probably if they were to be used upon a farm containing large quantities of apples where a great number of barrels of cider were to be made, they might not be profitable, for the reason that much more time would be required than if made in the old fashioned mills where the power consists of horses. Their practicability consists in their adaptation to those farms where comparatively few barrels are to be made, and whereby these can be made at any season of the year, in the winter as well as in the fall; and apples assorted during the winter can be made into cider for vinegar, which otherwise would go to waste, unless fed to stock, which would be less profitable. Again the better method of using the mills is, after having ground the apples, squeeze what juice will flow without too much of an effort upon the screw, and then return the pomace to a half hogshead tub, and having thrown one or two pailfuls of water thereon, let it remain until considerably fermented, when upon being squeezed the second time, nearly every particle of juice will be extracted, and which by many is considered to be superior for vinegar to the clear juice.

He asks, secondly, Can good cider be made with them? The answer would be, emphatically, yes, fully equal if not considerably superior to that made in the usual way.

Thirdly, Is the cider unfit for use, being black and nasty, tasting of iron, generally, or is this the exception? If any such circumstances have occurred, as are related by your correspondent, they certainly are the exceptions; no such cases having occurred in this vicinity. The fact of *any unnatural* discoloration of the cider, even, in the *least* degree, is unknown here. The cider bears the same color as though made in an old fashioned wooden mill. The cider, as every one knows, takes its color somewhat from the treatment it receives in the manufacture. If the cider is pressed immediately after being ground, it will be of much lighter color, than if the pomace is allowed to stand a little time after being ground, in which case it will possess that rich dark red color that is so much admired.

One very essential benefit to be derived from the use of hand mills, consists in the opportunity of making cider of different grades; that is, of assorted apples, or poor ones. Of course, it is known to every person that if one would have *good* cider, it must be made from good apples; and if one has a

hand mill he can make his cider in such quantities, and of the quality desired.

The method usually employed is, first, to place in the bottom of the tub or hoop, a layer of good clean straw, (when it is to be pressed immediately,) and then grind in the fruit until one-fourth full; then put in another layer of straw,—thus alternate until the hoop is filled. Place upon it the follower and press as hard as desired, then cast out the pomace, and so repeat the operation. In grinding fruit that is rather hard it will be found that not nearly all of the juice can be extracted, hence the necessity of a second pressing, as above indicated, from which, with the little water thrown in, nearly as much may be obtained for vinegar as from the first pressing. This product, in consequence of the small amount of water, will change to vinegar much sooner. Therefore, more cider can actually be made by the hand mill than otherwise.

Columbia, Conn., Aug., 1871. W. H. Y.

For the New England Farmer.

CARE OF FARM IMPLEMENTS.

A short time since, I called on a friend at his place of business in Boston who had just returned from the West, where he had been to look after customers, collect money, &c. I inquired of him as to business prospects of farmers where he had travelled. His reply was "bad, very bad. Limited trade and but little money." How is this? I asked. Have not crops been good and the farmers enjoyed every facility for doing a profitable business and paying their bills? "O yes, yes," was the reply; "many held their grain and cattle for a higher price, and paid as high as twenty per cent. for money they must have to use."

This, he said, however, was not the worst of their management. Every farmer has come to the conclusion that he *must* have all the improved machinery now in use in farming, and which is readily procured through agents at his door, who are so adroit in their calling that all hesitancy to buy, on the farmer's part, is soon swept away, and almost before he is aware of it, he has parted with what little cash he had towards paying for his implement and given his note for the balance. He might have got on quite well for a time with the old machine, and probably would if he had not been overpersuaded by the cunning of the dealer.

This, my friend assured me, was regarded by the storekeepers as the most serious drawback of any the farmers are subject to. The notes given are sold at a discount in the vicinity where the maker of them is known, and as soon as they become due, return to plague him with their unwelcome presence.

This part of the story is bad enough, but not the worst. The machines and implements for which the money and notes were given are unhoused, and very often remain in the fields

where they were last used, or gathered around the farm-house, liable to be damaged by cattle or the cattle to be damaged by them, and always subject to the damage of the weather.

To us, here in New England, no adequate idea can be formed of the great injury and decay consequent to tools thus exposed to the changing elements. They are warped by the sun, rotted by the wet, and soon used up. A bad feature of this condition of things is, the neglect to do the next best thing to housing tools by those who think they cannot afford house-room for them. He knows, and all know, that paint, oil and varnish are protectors and preservers of wood and iron. This fact is too generally ignored by farmers. There are some farmers who invariably paint all their carts, wagons and other implements that require it once a year, even if under cover when not in use, and think it pays well; of which there cannot be any doubt. How much more important, then, must it be for those which are not housed?

Carefully conducted experiments have demonstrated the fact that seasoned wood well saturated with oil when put together will not shrink in the driest weather. Wheels have been known to run many years, even to wearing out the tires, without once requiring the tires to be reset. Thousands of dollars might be saved annually in blacksmiths' bills, especially such seasons as the past, if this practice was adopted. It is now known by some that crude petroleum on even *old* wheels will produce like benefit. From the experience I have had in using it I am satisfied of its utility, and can recommend its use on all woodwork subject to exposure to the weather. It is of small cost, and any one can apply it. Let our western farmers that have no place to store their tools use it freely, and I will assure them that they will find their tools will last much longer than they do without it. K. O.

August, 1871.

LOW PRICES FOR CATTLE.

In some remarks on the present market value of cattle by the editor of the *National Live Stock Journal*, the idea is advanced that the fluctuations in the value of stock have never been as violent as in that of the products of other industries; that taking a series of years together, the margin of profit in raising live stock is far greater than in the production of any other commodity, and that the general course of market values are more favorable to breeders than to any other class of producers. These remarks are made with reference to western breeders, but we are not sure that they will not be verified by a reference to the history of the various industries of the East. We have referred to this article, however, for the purpose of copying the closing paragraphs:—

We are inclined to think that, no matter how unpleasant it may seem, an occasional

low range of prices is not altogether without compensating advantages. Where sales are quick, pay prompt, and profits large, the inducements for studying the correct theories of breeding, and the most economical mode of feeding, are, in the case of very many individuals, too small to justify in their eyes the labor and trouble involved. They feel that they are making plenty of money as it is, and are not inclined to make extra exertion in order to secure more substantial returns. Lower prices and smaller profits, however, open the eyes of all to the necessity of systematic and scientific operations, and breeders of all degrees summon all their resources to the task of discerning how a better article can be produced for less money.

We appreciate that, in many cases, the present range of prices is not satisfactory. But this is one of the ups and downs of a world where fortunes are continually shifting. The exigency demands prudence and study in order to utilize, as far as possible, the conditions by which it is attended, and a little patience to wait for the next wave to tide matters back to their old levels.

BEAUTIES OF COUNTRY HOMES.

"A house on a hill with no trees around it looks cheerless and unhomelike. Have grounds about the dwelling. Tear away the fences, they cost money and are useless. I mean the fences shutting the house up as if there were danger of its running away. Let there be not less than an acre of doorway, ten will be better. Make a rich lawn of this and cut the grass. It can be no waste, but it will be a thing of beauty and 'a joy forever.' There will not be any loss to be tasteful; nature and beauty are synonyms; good taste and economy can therefore be made handmaids to each other. Set out fruit-trees in this enclosure and dig around them with a spade each year, and top dress the whole, and the trees will grow finely and the grass will grow luxuriantly, and the house will grow beautiful, the children will grow contented, the fathers and mothers as they grow old will grow happy, the neighbors will grow to emulate and to excel, the township will grow attractive, and the young men and the young women will grow up to think and to feel that there is no place after all like home, 'Sweet Home.'"

That, Mr. Editor, is what I call nonsense. It was written by Mr. F. D. Curtis, of Saratoga County, N. Y. I have read it in at least four newspapers. If I get particularly tired, and sit down to rest and read a little, I must everlastingly blunder on to that same article, and I am sick of it. That it sounds pretty, I don't deny; but it is all gas; that's why I have concluded to break through the bars of modesty and give your readers my views of the case.

If our friend above quoted had been obliged to get a home and *pay* for it, as the most of us must, we shouldn't catch him spending his time making up such stuff for the papers; he would spend his spare moments in pulling weeds out of his corn, or increasing his compost heap; or, if he set himself down in the

house, it would be to help his wife tend the babies, or pick over beans, or *anything* but to tell other folks how to make a pleasant "door-yard." Ten acres for a dooryard! No doubt, if a fellow had plenty of capital, and no end of income, to buy all the desirable and ornamental things, with hundreds of acres of virgin soil lying around loose, and plenty of help to run this fabulous farm, it would be a great comfort to have a ten-acre yard, or "rich lawn," with the "fence" all "torn away," so that it can "run away" just as much as it likes to, and then in this *enclosure* (?) a splendid lot of fruit-trees, from apple and pear down to the small fruits, and no curculios to bother; but let this same chap buy a hundred-acre farm for \$5,000, and mortgage it for two-thirds the purchase money, and then attempt to support a growing family and pay his interest and enough of the principal to drive away the probabilities of speedy foreclosure, striving as he goes along to stock the farm and get tools enough of his own to cultivate it, and at the same time endeavoring to appear in society respectably, and you will find him singing a different song from that implied in the poetic strain quoted. He will find that these "things of beauty" and "joys forever," if they are "no waste," will go but a mighty little way toward a barrel of flour for his family, or a new pique dress for his wife; neither will they buy school-books nor pay tuition; while, if he leaves his corn and potatoes for beautifying his "rich lawn," he will learn that, though "good taste and economy" are "handmaids to each other," they will in this particular case do but confounded little for the pork barrel.

The "home, sweet home" part is good: I have great confidence in *that*. Our Mr. C. would have us believe that all that is necessary to do to obtain it is to lay out a ten-acre door-yard, and "top dress it and cut the grass," and then sit in it, *i. e.*, the lawn, all day and grin, and see the "children grow contented and the "mothers grow old," and the "neighbors emulate"! That part is all fictitious; but few of us are smart enough to get good, pleasant homes without downright hard work, and lots of it. We can't spend much time sitting in the shade while the weeds grow, nor throw out a great amount of money for "joys forever," till that mortgage is paid up.

Perhaps the painter of this glowing picture is not like the majority of the gang of writers on the beauties of country homes; I hope he isn't. I know some of them, and have visited their "country homes," and wondered how they managed to live among the rubbish that accumulates and the thistles and brushes that grow while they are getting up their voluptuous essays; and above all, I have questioned how they could expect their wives and children to inhabit such a place, and call it "home, sweet home," unless consoled by the

thought that husband and pa is smart and can write for the papers.—*Vermont Journal and Watchman*.

CROSSING MERINOS AND COTSWOLDS.

We have published several accounts of favorable experiments with crossing the merino with cotswolds. The following from the *Western Rural* presents a different view of the subject:—

In the fall of 1867, we bred fifty picked merino ewes to an imported Cotswold ram. The ewes were selected from a large flock, and included only such as from their size and form seemed best adapted to bearing large lambs. Whether from this precaution or not we can't say, but no unusual inconvenience was experienced by the ewes in yearning. The lambs when dropped looked fine and healthy, and for a week or two grew well; but from that time forward seemed to require more nourishment than their fine-wooled mothers were able to furnish them; and notwithstanding the pasture was good—though probably not what might be called first-rate—at weaning time we had lost a third of the lambs, and those that were still living were in poor condition, and most of them died during the fall.

As this was an experiment to test the prudence and profit of a cross that had been often recommended by gentlemen who handle live stock mostly "on paper," no more attention was given the mother or lambs than was bestowed upon the remainder of the flock that had been bred to merino rams. The experiment with us was not a success, though possibly under different treatment it might have been made such.

The conclusions arrived at were about these: that the ewes of the cotswolds and other nut-ton breeds are liberal milkers, much more so than the merinos; that nature is no more inconsistent with herself here than elsewhere, consequently this increased supply is to meet the requirements of the lamb whose destiny it is to mature at an earlier age than his fine-wooled cousin; hence the half-blood offspring of the cross we had made required more nourishment than the mother was able to furnish. No stock breeder needs to be told that a lamb, or any other young animal, stunted during the first three months of its existence, can only with difficulty be afterward forced to mediocrity, and never to the hi best standard of perfection in its particular type. Assuming, then, the wool to be a secondary consideration, and that the object of crossing a larger breed upon the merino is to increase the size and render more valuable for market purposes the progeny of the latter, the effort defeats itself when such increase in size can only be secured by an increased cost in the items of artificial feed and extra care and nursing.

Without this additional assistance, our experience is that the half-blood cotswood lamb suckling a merino mother, is not worth at weaning time as much for either mutton or wool as a full-blood merino lamb that has had the same amount of food and attention. In view of this fact, we cannot recommend the cross, and would only justify it when the object is to get the entire flock into market in the soonest possible time, without regard to the expense of feeding.

WHY DON'T BEES SWARM?

There are many causes for bees not swarming, but the two following are the most common. When circumstances are favorable, and there are many bees in the hive, and yet they do not swarm, it is usually some fault of the queen. The stocks of some queens seem more instinctively endowed with the swarming propensity than others; some seem almost wholly destitute of it, while others will hurry off before they have numbers sufficient to warrant such a move. It is quite common for a stock to utterly refuse to cast a swarm for three or four years in succession, or during the life of a queen, but when she dies of old age, and a young one takes her place, they almost always become suddenly prosperous and equal to any. If in movable comb-hives, destroy the old queen early in June, and either give them a new one or allow them to rear one for themselves, and you will not generally have cause to complain of them after. The Creator has given bees the swarming propensity as a means of continuing their species, and when all goes well with them there is but little fear but what they will swarm enough.

The weather, too, has much to do with the issue of first swarms, and a sudden change may prevent them swarming for a whole season. First swarms never issue unless flowers are producing honey abundantly, and the weather has everything to do with this. A partial failure of honey frequently frightens bees so much as to cause them to destroy all preparations for swarming, and abandon the idea entirely, when perhaps the next day may be favorable, and they will begin again. It takes about eight days for them to get the oldest queen cells capped over from the time the eggs are laid in it, so their arrangements are complete again in about eight days. July 2d I had about a dozen stocks with more or less preparation for swarming. The morning of that day opened well, and several swarms that were ready to issue commenced to fill their cases with honey preparatory to their departure (for they always carry provisions with them), but at about ten o'clock there came up a smart east wind, and in less than half an hour the bees stopped work entirely; none swarmed that day, and at night when I opened the hives to ascertain the cause, I found that three out of the lot had destroyed their queen

cells and given up the idea, while others were waiting for better times. The next day was favorable, and those that were ready swarmed, while those that destroyed the cells commenced again and swarmed on the 10th.—*G. W. P. Gerald, in Maine Farmer.*

From the Prairie Farmer.

IN MY GARDEN.

BY MRS. H. E. C. AREY.

In my garden—in my garden, with the lilies of Japan,
With the waxen-lipped tuberose from the plains of
Hindustan,
Shadowed by their princely beauty, but to me more
sweet than these,
Bloom the tender-eyed blue violets, and the wood
anemones,
That I fondled in my childhood, underneath the forest
tress.

And the passers lounging idly down the borders, fail
to see,
'Mid the toss of gorgeous flower-sprays, that which so
delighteth me.
But sometimes a dreamer cometh, sauntering down the
sweet dell,
Heeding scarce my pinks and roses; but I see him
pause and smile
Where the pale-faced blossoms wave their censers by
the garden aisle.

And I know his ear has caught the story that they tell
to me,
And his spirit bows enraptured at a shrine no eye
can see,
There are visions trooping round him, of some long
forgotten hour;
There the past's dead marbles quicken into life with
magic power,
For Oblivion's cells are opened by the fragrance of a
flower.

RAISING SEEDS.

From a description of the seed-raising farm of Edwin S. Hayward of Brighton, N. Y., near Rochester, written by the editor of the *American Rural Home*, we condense the following:—

Beets for Seed.

Of these he has twenty acres, and we never saw a crop look finer. The varieties are long blood, blood turnip, Bassano and long red mangel wurtzel. He has grown for many years, and to the entire satisfaction of purchasers, but not to his own, from common stock, but last year he threw it up entirely, and substituted French stock all through, at a cost of over \$1000. It takes two years to raise a crop of seed. The first year the roots are grown. For this purpose the seed is sown with a drill about the 15th of June, on ridges two feet apart. They are sown thus late, and rather thick, as the object is to get small, healthy roots rather than large ones. Small beets are just as good to raise seeds from, and the storage and handling costs much less. In the fall they are pulled and topped, care being taken not to cut so close as to injure the crown. They are then carted and pitted in the field, where they are to be set in the spring,

the pits being distributed around the field so that they can be taken from the pits to the drill in which they are to be set, without the aid of a team. This saves much labor, as it takes about 100 bushels to the acre. Great care is taken while the roots are being handled to see that they are true. If a turnip beet grows too long, or a long beet too short, it is discarded. They are set in rows three and a half feet one way, and from one and a half to two feet the other, according to habit of growth. All horse work must be done by the 20th of June, as there is not room to get through later than that without damage. If weeds appear after this they are pulled out. When the seed is ripe enough the crop is cut at the root, and laid in small bunches across the ridges, where it remains two or three days to dry. It is then drawn to the barn and threshed with an ordinary threshing machine, and cleaned with a fanning mill. From two to three tons are threshed and cleaned in a day. It is afterwards spread and dried, and has an extra cleaning for market. A good crop from the French stock is 1500 pounds an acre. His crop of all seeds is always contracted before planting, so that he knows just how much to plant, and where to put it when harvested. There is no safety of doing otherwise in seed growing. The contract price is twenty cents a pound or \$100 a ton.

Onions.

The seed is sown in drills two feet apart, and quite thick in the drill on rich ground, top-dressed with fine manure after ploughing. The onions should be ripe in August, when they are pulled and thoroughly cured on the ground. They are set out in rows three and a-half feet apart, and nearly touching each other in the row, from the 15th of October to the 15th of November. After setting, a furrow is turned from each side on to the rows with a small plough, leaving the onions in the ridge. It takes about 100 bushels to set an acre. The White Globe and Danvers being more tender varieties than the others, are not set till spring. They are kept under cover until frozen hard, when they are put in barrels and kept frozen during the winter. If allowed to thaw out before spring, it damages them very much. If the freezing and thawing is repeated, it spoils them entirely. The yield is from 400 to 600 pounds, and the price from 75 cents to \$1.50 a pound.

Lettuce.

Fifteen acres of lettuce in the blow, standing over two feet high, in rows two and a-half feet apart, and as straight as a line across the field, is not a common sight, but one that can be seen every year on Mr. Hayward's farm. The ground for this crop is prepared as early as it will work well in the spring. The seed is sown on ridges, and the plants thinned when they have attained suitable size, from three to twelve inches in the rows, according

to habit of growth. The yield, if anything, is from 300 to 400 pounds, which sells for 75 cents. But this is a ticklish crop, and one which causes the grower a great deal of anxiety. It is one of those "doubtful things" that "are mighty uncertain." It may promise a splendid crop until a few days before cutting time, and then suddenly blight, and not give a pound of seed. The indications of blight are first seen in the leaves next to the ground, which turn black. When this comes, hope goes. There is no remedy. The varieties now growing are Early Curled Silesian, Boston Curl, Frankfort, Ferry's Prize Head, Victoria Cabbage, Royal Cabbage, and Drumhead.

Cabbage.

The seed for plants is sown from the 1st to the 20th of July, and set out in about four weeks. These may be grown on ground from which some of the more early maturing crops have been taken. With cabbage, as with the beets and onions, it is an object to get a small but healthy growth; large ones would be altogether too bulky. They are taken up in the fall and put in trenches across the field, in which they are to be set in the spring. A light covering of dirt is given them. In the spring they are set eighteen inches apart in rows three and a-half feet from each other. The whole cabbage is put out, being set in the ground up to the head. It is cut as soon as the seed turns black in the pods, which is from the 20th to the 25 of July. The yield is from 200 to 400 pounds per acre. The varieties under culture are the Marblehead Drumhead, Stone Mason Drumhead, American Drumhead, Premium Flat Dutch, Early Winnigstadt and Early Wakefield.

Sweet Corn.

The growing of sweet corn is made a specialty, and the crops, thirteen acres in all, on the two farms, were looking very fine. All the choice and new varieties, early and late, are found in his list, and the seed is cured with great care.

Squashes.

The plots devoted to squashes were well worth looking at, and we have seldom seen anything handsomer than the White Scallops, which had nearly attained their full size. These, with the Summer Golden Crook Necks, are planted four feet apart each way, and the Hubbard six feet. Unwearied pains is taken to keep the seed true and pure. When the frost kills the vines, the squashes are split open with a hatchet, and the insides dug out and put in barrels, where they remain until fermentation takes place, when they are taken to the brook and washed.

—The *California Farmer* of July 27, notices the arrival in San Francisco of Commissioner Capron, on his way to Japan, under his \$20,000 per year commission to that country.



HONEY LOCUST OR THREE-THORNED ACACIA.

This tree in Pennsylvania and in the more Southern States is highly prized for the beauty of its foliage, small flowers, and long pods which contain polished seeds invested in a sweetish pulp, which, fermented, is made into a sort of beer. It has been employed in making hedges, and with good success. The sharp spines or thorns with which the body and branches are covered are found effectual in keeping off such animals as would intrude on the enclosed grounds.

Mr. Elliott says in his *Lawn and Shade Trees*, that the Honey Locust, is a tree that does not sucker; its branches are strong, rarely if ever breaking under the strongest gales of wind; assumes to itself the privilege of growing in many shapes, from that of a tall, branching, and lofty character, to one of almost horizontal form. In foliage it is light and open, feathery, and together with its wood studded with long pointed thorns, and seed pods of five or six inches in length, which hang on all winter, create for it a tree very desirable in the composition of groups, and also for roadsides or streets where only a partial, not deep, shade is desirable.

INDUSTRIAL SCIENCE.

The attention of the reader is especially called to an article in another column in relation to the *Worcester County Free Institute of Industrial Science*. It is from the pen of our highly valued correspondent, Mr. GEORGE B. EMERSON, author of the charming work on the "Trees and Shrubs Growing Naturally in the Forests of Massachusetts." He has long given character to these columns by the practical and judicious views in which he treats all subjects which he discusses. While grateful for his former contributions, we hope they may be no less frequent in the future.

Our own careful observation through many years confirms the views of our correspondent in relation to the desire among young people of both sexes to *avoid manual labor*. The idea has taken fast hold of them that it is disgraceful, the teachings of St. Paul and the necessities of the world, to the contrary notwithstanding. It is a baleful idea, crippling body and soul, sapping the foundations of our social existence and contravening the express injunctions of Holy Writ. It is a mean robbery to eat the bread that another labors to

produce, if we can reasonably produce it ourselves.

It would be a woful time among lazy people and those that assume that their precious flesh and bones would be contaminated by useful toil, if we had the power of the "Grand Turk" for a single day. The decree should go forth at once, "THAT IF ANY WOULD NOT WORK, NEITHER SHOULD HE EAT." All should work in some form. With the head to teach others, with the hands in a thousand ways to alleviate human toil, or even by the heels to teach the child how to walk easily and gracefully! All should be producers in some form, as well as consumers. Then the great disparity in society would be somewhat modified; there would be less crime, less suffering, and eventually a higher civilization. JOHN RUSKIN says that "it is only by labor that thought can be made healthy, and only by thought that labor can be made happy." This is true; and much of the sickly sentimentalism which disgraces our literature springs from the pernicious idea that it is degrading to labor in cultivating the soil, in the mechanic arts, or in any of the rough but manly pursuits that the world so greatly needs.

Thanks to the founders of this new institution, and to our correspondent for calling attention in these columns to its noble work.

For the New England Farmer.

WORCESTER CO. FREE INSTITUTE OF INDUSTRIAL SCIENCE.

A very satisfactory examination of this institute took place on the 26th of July, followed by equally satisfactory exercises of the graduating class. The fifteen young gentlemen who composed this class had written long essays, each upon some one of the subjects to which they had been devoting their attention during the three years of their course. These were long, elaborate, well-written papers, showing how thoroughly and faithfully they had been working. It was impossible to hear them all, but enough of each was read to give an idea of its ability and character.

At the same time, in other parts of the principal building, full samples of the work done in the several departments of drawing were exhibited, and many records of their work in geometry and other branches; and, in the Washburn workshop, pupils were seen at work,—giving abundant evidence of their skill in the use of tools.

The great and precious distinction of this institute is that it offers opportunities and inducements for the formation or continuance of

habits of manual labor; that it is the Institute of *Industrial Science*. A great and threatening evil in the States of New England is the prevalence of a desire among boys and young men to avoid manual labor. This is a great, sometimes a fatal mistake, physically, morally and economically. A boy cannot promise to attain to perfect manhood whose bodily powers are not accustomed to vigorous exercise. And this habit of exercise ought to begin early and be faithfully continued through youth and early manhood. By this process all the powers of the body will be fully developed, and preparation will be made for a vigorous manhood; and with this and by virtue of this exercise, there may be perfect health of body and mind. In a body thus healthily strengthened, and with habits of ready, easy and skilful labor, the mind will be in the best condition to act, and the moral nature may be kept in a sound and healthful state. Without these habits and powers there will be danger of intemperance and excess, and when a place not requiring bodily exertion cannot be found, there will be temptation to violation of the laws of the land. This is not a fanciful theory; would that it were. But the records of the prisons in New England and the other Northern States show that nearly all the young men confined in them are there for want of a trade and of habits of honest industry.

There are undoubtedly many operations and processes in the arts and in machinery which require only intelligent supervision, and there are many places which do not seem to require manual labor. But the candidates for these situations are already more numerous than the places, and are becoming more numerous every year. Such institutions as the Technological Institute in Boston, the School of Arts at Hanover, N. H., the State Agricultural School, and this at Worcester, are becoming more numerous, and are yearly attracting more pupils, not only in New England, but throughout the country. Unless habits of manual labor accompany the knowledge of useful arts and of the applications of science, an education in one of these institutions may be a misfortune to those who secure it. A young man who, for three or four years of his youth, discontinues the energetic use of his muscles, will resume that use with repugnance and extreme difficulty, which may be ruinous to him. That provision of this institution, therefore, which requires or allows some hours daily of hard work is to be especially commended. It is the great distinction of the institute, showing that it was founded by men who had a regard for the permanent welfare of the pupils.

It will doubtless be said that young men may be qualified here to superintend manual operations, without the necessity of working themselves. That is really a mistake. He only is *perfectly* fit to superintend and conduct the work of others who can take hold of the tool that is used and wield it himself with more

skill and vigor than any of the fellows under him. Whoever has long and carefully observed the operations of a farm, would not be willing to employ a man to take charge of one, whether small or large, who could not take up any tool used and *show* better than any one else how to use it. And so it must be, in at least a certain degree, in all other occupations. On a farm, "Come boys," is much the safest order that can be given. I do not believe that one can *thoroughly* understand an operation which he cannot go through with himself. All the great discoveries of late years in chemistry, in mechanics, in physics, have been made by assiduous and persevering workers, by men long accustomed to handiwork. It is only a vigorous mind, in a healthy, vigorous body, under the guidance of a conscientious spirit, which can be relied upon for energetic and effective management.

It is only under the guidance of leaders of integrity, character, educated intelligence and vigorous, manly energy, that operations of war or peace can be carried on so as to command success. The men engaged in the work must be not only able to respect their officers for their knowledge and intelligence, to rely upon them for their justice and integrity, but to look up to them as men who can do and have done the work themselves, and thus understand all its difficulties and can sympathize with those doing it. Everything indicates that the time is coming when the employer and the employed are to be no longer considered as men of different classes and with different rights. There must be a completely good understanding between them as friends working together for the same ends. G. B. E.

For the New England Farmer.

GLOOMY POSPECT IN KENNEBEC, MAINE.

"O, the grasshoppers! the grasshoppers!" is the universal cry of the Kennebec farmers. I trust they may be excused for some grumbling and some foreboding, when we take into consideration the facts that the drought of 1870 cut the hay crop down at least one-third; that all the surplus of all kinds of grain was consumed to get the stock through the winter, so that the spring of 1871 found us completely destitute of all kinds of feed; that the drought of the present season cut our hay down nearly one-half from last year; and that after all this, the grasshoppers have eaten our grain, many of our potatoes, our gardens, including fruit trees together with the fruit, and in some cases the bark, leaving us nothing to depend upon but our corn; and now, as if to give a finishing stroke to both our crops and our patience, they have "gone for" the corn, and there is every prospect of their completely destroying it.

We are now found with too much stock by half, worth next to nothing, and from the

scarcity of feed, so thin as to be unsalable; with probably the smallest amount of dairy products for twenty years; with a very light crop of apples, and with hired labor and taxes to be paid from the hard earnings of past years. Taking the whole thing into consideration the prospect is for the coming winter anything but flattering.

Now, what shall we do? It is no use to whine. Grumbling never cured a dog of a sore head, nor ever will. The old county of Kennebec is to be cultivated and improved by somebody in the future, as in the past. It has hitherto afforded us a good living, and generally a small balance on the right side of the ledger, at the close of the year. Now, instead of desponding, or borrowing trouble, or emigrating, let us occupy the present autumn in preparing for the campaign of next year. Clean up the swales; clear off the rocks; dig out the muck; replenish the hog-pens and stock yards,—do it often,—and plough or fork it over once or twice each month or oftener. Economize every available source of fertility upon your own premises, and buy as your means or opportunities allow. We must expect a short crop of hay for a few years; but instead of being discouraged at this, let it rather be an incentive to greater efforts in other directions to supply the deficiency. Prepare for next year, and let the mistakes and failures of the past serve as warnings for the future.

The scourge that has visited us this year, if it serves no other purpose, ought to remind us that after all our own efforts, we are still dependent upon a vastly higher power that we be permitted to reap the fruit of our labors.

D. H. THING.

Mt. Vernon, Me., Aug. 10, 1871.

For the New England Farmer.

HOW TO RAISE LARGE CROPS OF HAY.

From different parts of New England we hear a great deal about the short hay crop this year, and, indeed, we hear it every year among a certain class of slack farmers, who wear their fathers' old shoes, walk in the same old footsteps and cling to the same old ideas. There has been thousands of acres of grass cut this year in New England that will not average one half ton per acre. The farmer that pays \$2 per day for help in haying cannot afford to go on in this way.

I do not wish to find fault with farmers, but would like to tell them something. It is no secret; they can in turn tell others—that is, how easy it is to have a bountiful hay crop; to have their barns well filled; their cattle fat and sleek—always ready for sale; their debts paid, and consequently, their sleep sweet and undisturbed.

Farmers, as a class, work too much and think too little. They try to mow over too much land, without having it in a suitable con-

dition. They start wrong at the beginning. They manure very lightly, sow on a small amount of seed and leave the surface rough, the stones lying broadcast all over the surface, and feed the grass close in the spring because they did not have hay enough the previous year and no money to buy with. Hence, the cattle were so poor that they had to recruit on the grass or they would die.

Now, the farmer who has long practiced this way can turn over a new leaf if he will try. In the first place, don't be too fast. Nothing is ever gained by hurrying. Don't expect to do everything at once, but be patient and persevering and all will come right in due time. In the first place, begin with a small piece,—perhaps an acre, more or less; as much as can be attended to properly—spare no pains to get it just right; seed it well—don't be stingy in this part; make it smooth; pick up the stones, and get it ready for mowing. And when you have done this, don't ever let it run out, but compel it to cut a little more each year than the previous one, if possible.

This is very easily accomplished by top-dressing. I do not mean, wait until it is all run out; this is a hard way; it is like letting a horse get so poor that he can hardly stand before giving him any grain—it is almost a hopeless task. The true and proper way is to top-dress while the land is yet in good condition. This is the way to keep the wheel rolling. A little grass seed can be sprinkled on once in two or three years, just before top-dressing, which will cause the grass to spring up fresh, like a new stocked piece. Land treated in this way need never be ploughed after the first start; but if it is ploughed, a nice thick turf is turned over, which decomposes and is as good for all crops as a heavy coat of manure.

I am making some experiments on different materials for top-dressing my fields. I am satisfied that it need not be more than one-fourth barn-yard manure composted with three-fourths of something else. When I become settled on that point you may hear from me again. J.

Morristown, Vt., Aug. 10, 1871.

COST OF WEEDS.

What I have on the brain is *weeds*. Some people think, that with modern agricultural implements, and the vast extent of fertile land in the United States, we shall produce so much more grain, and meat and wool than can possibly be consumed by our population, that prices will fall so low that there will be no profit in farming. Were it not for weeds and insects, such probably would be the case. My own farm and the Deacon's are overrun with weeds. We are fighting them to the extent of our ability, and are meeting with gratifying success. Our farms are becoming cleaner and

cleaner every year, but even yet the weeds cost us more than all other taxes,—town, county, State and national—direct and indirect, combined. I do not mean that the labor of destroying them costs so much, but the weeds that escape damage our crops to such an extent that we lose half our profits. You must recollect that the actual profits of farming, after deducting the interest on capital, the cost of labor (our own or others'), the wear and tear of implements, &c., are exceedingly small. I know of comparatively few farms where, after making these deductions, the actual profits are more than five dollars per acre. On the other hand, I know of scores of farms where, at least on some fields, the weeds damage the crops ten dollars per acre. And, depend upon it, no farmer can be really successful until he makes an earnest, persevering effort to clean his land. It is fortunate for us that the means used to accomplish this object will do much towards enriching the soil.—*J. Harris, in Am. Agriculturist.*

AGRICULTURAL ITEMS.

—Candidates for admission to the Massachusetts Agricultural College should appear at Amherst, Thursday, at 9 A. M., August 31.

—A Maine farmer collects a bushel of grass-hoppers daily for his hogs. Scalded, they make a soup that the swine swallow with a relish.

—The University of Vermont decides to admit women to its privileges, on terms to be fixed by the Faculty. The Waterville, Me., College has decided to do the same thing.

—The Doniphan (Kan.) *Democrat* says: "A farmer in Jackson Co., Mo., after cutting his wheat, broke up the ground and planted it in corn; and his prospects are good for a fair crop of the latter."

—It is stated that trees cut in summer and allowed to lie until the leaves dry, will have the sap extracted by the foliage, and the timber thus treated is very durable.

—A farmer near Lewiston, Me., lately sold thirty tons of hay for \$30 a ton, and thus pocketed at once \$900! There is quite a panic in that vicinity about hay, and some people predict that it will sell for \$40 a ton yet.

—A Western paper says:—The harvest of human limbs by reapers in Iowa this year, is the most tremendous one ever known. We have tallied for every separate one reported in our exchanges, and the number is twenty-three."

—The contract for the erection of the main building of the Ohio Agricultural College has been let at \$112,480. A park of not less than forty acres is to be laid out. The building is located very near Columbus.

—The *Prairie Farmer* says, our last quotations for pork was \$14 per barrel; at this time last year it was quick at \$30. Corn then was worth 93

cents per bushel, now it is hard to dispose of it for 50 cents, and the market has a decidedly downward tendency. Now oats are sold at 40 cents, then they were worth 52 cents. Rye is worth about 57 cents against 85 cents last year. One year ago cheese was 13 cents, now 9 cents a pound.

—The *Western Rural* in speaking of the Colorado potato bug says there is much encouragement in the fact that the persistent fight which has been kept up against them has been so far successful that their inroads will not seriously affect the potato crop this season at the West.

—A correspondent of the *Western Rural* says that about a common shot-gun charge of gun-powder in half a pint of cider vinegar is a remedy for blackleg in calves. In one case, after a calf got so bad it could not stand he gave it three doses in an hour, and it cured it.

—A writer in the *Cincinnati Gazette* says that two years ago he applied fresh hog manure mixed with corn cobs, and put a wheelbarrow full around each young apple tree which had been set out about five or six years. The application resulted in the death of several nice young trees, the bark being burned or scalded just above ground.

—A farmer named Joseph Marquis, living near Colfax, Iowa, was sun-struck recently. While suffering from the attack and unable to leave his bed, another misfortune stared him in the face, to wit, the loss of his ripening grain. Twenty of his neighbors, however, knowing his situation, met on his farm, cut and stacked his grain, and did other necessary work about the place.

—It was predicted a year since, by those who pretended to know all about it, that the 300 additional woolen mills built within the last few years in the Northwestern States, would before this be standing still, as manufacturing in their specialty would be overdone and unprofitable. But, on the contrary, the manufacturers of all classes of woolen goods give an encouraging report.

—The *Western Rural* says the entire clip from Mr. Loomis' fine flock of Cotswolds was taken by the manufacturers of chignons, to be employed in the manufacture of those adjuncts of the modern female toilet. Courage, ye long wool growers! A single chignon for each woman in the United States, of ordinary size, will require for their construction double the amount of long wool produced last year in the whole country.

—The *Southern Farmer* says that a teaspoonful of fine salt or of horse radish in a pan of milk will keep it sweet for several days. Milk can be kept a year or more as sweet as when taken from the cow by the following method: procure bottles, and as they are filled, immediately cork them well and fasten the cork with pack thread or wire. Then spread a little straw in the bottom of a boiler on which place the bottles with straw between them until the boiler contains a sufficient quantity. Fill it up with cold water, and as soon as it begins to

boil draw the fire and let the whole gradually cool. When quite cold take out the bottles and pack them in sawdust in baskets, and stow them away in the coolest part of the house.

—M. L. Dunlap's idea of planting forest trees is that they must be closely planted, in order to make proper upward growth, and will need to be thinned out, year after year, according to the rapidity of growth. About three thousand trees to the acre will answer a good purpose. This will make them about four feet each way. Some planters prefer three feet, and begin to thin out in five or six years. The wood that is obtained in thinning will more than pay for the extra plants and labor.

—The oldest tree on record in Europe, is asserted to be the cypress of Scenna, in Lombardy, Italy. This tree is believed to have been in existence at the time of Julius Caesar, forty-two years before Christ, and is therefore 1911 years old. It is 106 feet in height, and 20 feet in circumference at one foot from the ground. Napoleon, when laying down his plan for the great road over the Simplon, diverged from a straight line to avoid injuring this tree.

—The oldest of all rose-bushes is said to be one which is trained upon one side of the cathedral of Hildesheim, in Germany. The root is buried under the crypt, below the choir. The stem is a foot thick, and half a dozen branches nearly cover the eastern side of the church, bearing countless flowers in summer. Its age is unknown, but documents exist which prove that the Bishop Hezilo, nearly a thousand years ago, protected it by a stone roof, which is still extant.

—An artificial whirlwind blew at Glen's Falls, New York, a few days ago; it was caused by a farmer, who, wishing to burn a fallow of about fifteen or twenty acres, ignited the brush at several places at the outer edge. The flames rushed towards the centre and assumed a rotary motion, which increased in velocity till a terrific whirlwind was formed, which tore up small trees, root and branch, and frightened everybody who witnessed it. A column of smoke rose to so great a height that it was visible for many miles, and a noise as loud as thunder accompanied this singular phenomenon.

—The *Practical Farmer* says that in Pennsylvania there is rather a prejudice against Orchard grass, chiefly owing to its growing in bunches and rather coarse stem and leaf. These may be obviated by thick sowing—not less than two bushels to the acre. It ripens early, and for this reason would make a good mixture with clover. We know dairymen who value it highly both for hay and pasture. Rapid growth, after frequent and close cropping or cutting, is the specialty of Orchard grass. We do not consider it adapted for thin land or soils worn out by bad farming.

—The following method of storing potatoes, recommended by Dr. F. Moigno, is a simple and sure way of preserving them from rot. When mature,

the potatoes are dug and allowed to dry, and are then put into pits that are lined with straw. As they are deposited in the pit, either charcoal powder, gypsum, or the ashes of coal or wood, should be freely scattered among them, in quantity sufficient to fill up all interstices. They should then be protected from the action of direct sunlight, and after a few days, covered with two, or what is better, four feet of soil; care being taken that the ground about the pits is effectually drained.

EXTRACTS AND REPLIES.

CHRYSLIS OF BUTTERFLIES.

I send you something I cannot find a name for. Please tell me what they are. I found them both on a stalk of caraway. J. E. C.

Oxford, N. H., Aug., 1871.

REMARKS.—Our very small stock of entomological knowledge enabled us to recognize the two "somethings," which came safely to hand in your little pill box, as the chrysalids of two different kinds of butterflies. But not being able to decide what kind of butterfly either of the cocoons contained, we submitted them to Prof. Sanborn of the Boston Society of Natural History, who very kindly examined them and furnished the following answer to your inquiry:—

MESSRS. R. P. EATON & Co.:—Sirs,—The specimen with gold spots on a bluish ground is the chrysalis of *Danaus archippus* Fabr. which is described but not figured on page 280 of Harris's Treatise, (edition of 1862); this I presume you have at hand.

The other, greyish and green, is the chrysalis of *Papilio asterias* Linn. which species is fairly illustrated on Plate IV. figures 4, 5, 6 and 7 of the work previously referred to. FRANCIS G. SANBORN.

Boston, Mass., Aug. 11, 1871.

DANAUS ARCHIPPUS.

With Prof. Sanborn's help we were enabled to find in Mr. Harris's book a description of the specimen with a string of gold beads around one end of its bluish case and gold spots on other parts,—one of the handsomest chrysalids we ever saw. The spots and the necklace were as bright as burnished gold. We also find figures of the caterpillar, chrysalis and butterfly, in the *American Entomologist*, Sept., 1868, pages 28 and 29. The colors of the caterpillar are black, white and yellow, banded, and is full two inches long; the butterfly is most beautifully ornamented with orange, red and black, and spreads its wings about four inches. They sometimes congregate in large numbers. They live on milk weeds, &c., and do not injure useful plants.

PAPILIO ASTERIAS.

Naturalists depend mostly on the characteristics of the butterfly to determine the species. The chrysalis and pupa of different species are often very similar in appearance. Mr. Harris describes the butterfly which issues from your greyish and green chrysalis as follows:—It is of a black color, with a double row of yellow dots on the back; a broad band, composed of yellow spots across the wings,

and a row of yellow spots near the hind margin; the hind wings are tailed, and have seven blue spots between the yellow band and the outer row of yellow spots, and, near their hinder angle, an eye-like spot of an orange color with a black centre; and the spots of the under side are tawny orange. The female differs from the male, above described, in having only a few small and distinct yellow spots on the upper side of the wings. The wings of this butterfly expand from three and a half to four inches.

The caterpillar of this butterfly lives on parsley, carrot, parsnips, caraway, &c., and is sometimes called the parsley-worm. They sometimes injure the plants considerably. The eggs, laid in July and August, are hatched soon afterwards, and after attaining their growth become chrysalids, and are transformed to butterflies about the beginning of June the next year. Gathering and destroying by hand is the only known method of preventing their ravages.

GRASS FOR NAME?—WILD RYE (?)

Can you give me the name of the grass, which I enclose to you? It is new to me, the first which I noticed being two years ago; it is now thinly mixed in on several moist pieces of natural mowing; see none of it on land which has been cultivated. G. E. F.

Salisbury, N. H., July 25, 1871.

REMARKS.—The flowers and roots are parts which botanists wish to see in determining varieties of grasses. Hence it is often difficult to determine the name of a grass without these. A pretty good botanist to whom your specimen was shown thought it was witch grass. But on comparing the two, a material difference was observable in the arrangement and density of the spikelets, and otherwise. We therefore enclosed it to our correspondent, E. A. Ellsworth, a graduate of the Massachusetts Agricultural College, who has given it a thorough examination and concludes, though not with much positiveness, on account of the absence of flowers, &c., that it is *Elymus striatus*, Wild Rye, or Lyme grass.

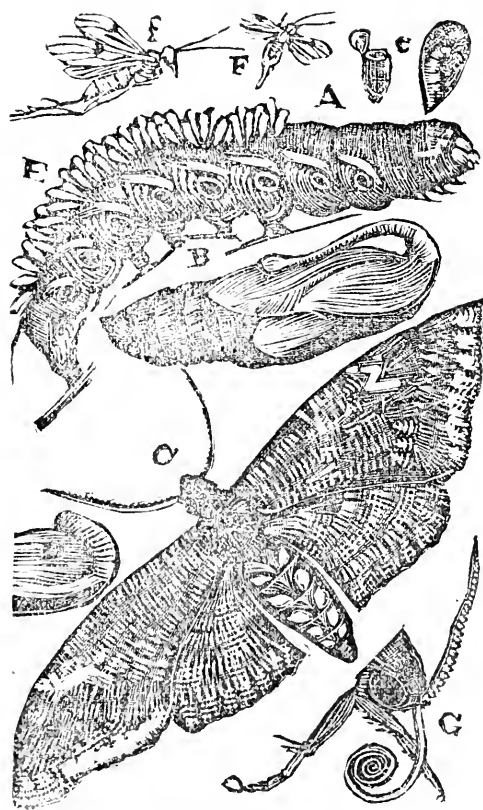
We are pleased by the spirit of inquiry manifested by the receipt of plants, insects, &c., for names. It shows that a need of a better knowledge of the things by which we are surrounded and with which we have to do, is felt.

And now, boys and girls, how shall the long evenings of the coming winter be employed? Will not the study of some of the many primary books on botany, natural history, &c., pay better than reading love and murder stories? A little knowledge is not a dangerous thing in these days, if it ever was.

THE FIVE-SPOTTED HAWK-MOTH.

Since we wrote our reply to the inquiry of Mr. H. G. Ballou, of Lunenburg, for name of a large butterfly that he enclosed in his letter, we have obtained the following cut, which, though coarsely engraved, illustrates not only the butterfly, but

the caterpillar and the chrysalis stages through which it passed; and also some of the parasites which disturb its peace and destroy its life. All butterflies and moths deposit their eggs and die; from these eggs hatch *caterpillars*, which have strong jaws and voracious appetites; they eat and grow till the time comes for them to take a nap; in their sleeping dress, which is of various patterns and colors, they are called *chrysalids* or *chrysalis*; from this stuper they come forth with four scaly or powdery wings and mount into the air in the gaudy dress of butterflies. Their strong jaws are gone; coarse food is no longer relished; they are decidedly aristocratic in their associations, and fastidious in their tastes, sipping the honey of flowers, &c.; they appear determined to have a gay time of it generally; they deposit their eggs for a succession of their species, and disappear from the stage of action.



The full grown caterpillar is marked A; and the chrysalid B. The jug-handle appendage of this chrysalid is peculiar to this butterfly, and is a very neat contrivance to protect its long tongue. The butterfly is marked C, and at G we have its head magnified to show its leg, antenna, or feeler, and its peculiar tongue, now coiled up like a watch-spring, but with which it sucks flowers while upon

the wing, like a humming bird. On the back of the caterpillar, at E, are seen the cocoons of the larvæ of the ichneumon flies F and f, and at e two of these cocoons magnified, with the end of one of them cut open, and the top pushed off like a hinged lid, by the insect which had emerged therefrom, and become a perfect ichneumon fly. These parasites destroy large numbers of caterpillars, which might otherwise increase so immensely as to destroy vegetation entirely in spite of all that man could do. So much for this potato worm and its enemies, to watch the operations of which a magnifying glass is necessary.

WHEAT IN READING, VT.

I have been reaping the past week for my neighbor, Rufus Stearns. He has raised wheat for twenty years, and he assures me that he has not had a single failure in this crop during that time. He estimates the yearly average as high as twenty-five bushels per acre. Until about three years past he occupied a hill farm, near the old centre brick church in this town, Reading. He now lives on the old "worn out" meadow land bordering Mill Brook. Here he has raised three beautiful crops of wheat, on land on which farmers generally abandoned wheat raising about thirty years ago. Mr. Stearns tells me that he raised one year on the hill farm forty-five bushels of wheat on seven-eighths of an acre. This year on just about the same area of "intervale" land he has 694 sheaves, double band, and he estimates the yield equal to thirty bushels.

His practice is to turn over sward land in the spring, manure liberally in the hill for corn, if he has not enough to spread, and after harvesting the corn, ploughs in the fall. In the spring, as early as the season will allow, he ploughs again and spreads on only about seven one-horse cart loads of manure per acre, eight to ten bushels of refuse lime. This he obtains at the lime kiln at ten cents per bushel, then slakes it dry, adds what ashes he has, and broadcasts it at the time of sowing the wheat, and harrows it all in together. The secret of his unvaried success in wheat raising on hill and intervale consists, he thinks, largely in the use of lime.

Another neighbor, Mr. Jarvis Pratt, a very thorough hill farmer, has kept up the practice of raising wheat every year, but some of his later crops have been rather poor. He has not used lime. There are but few other farmers who have raised wheat in this neighborhood for many years.

I have spoken of the *secret* of Mr. Stearns' success with this crop. This however is not a proper word to use, as he has no secret; but tells us all that we can raise wheat as well as he if we will follow his practice, every step of which he is ever ready to explain and illustrate.

With the advice and example of these two neighbors, whose farms adjoin that of my own, I was induced to try about an acre and a quarter of my hill land, near Mr. Pratt's, with winter wheat last fall, as I have been in the practice of seeding in the fall, believing that the oat crop with which many seed their grass fields is a hard one both for the land for the young grass. Mr. Stearns estimates my harvest at thirty bushels, though I applied no manure, lime or ashes to the crop. It should be remarked, however, that the present season has been unusually favorable to wheat.

The success of Mr. Stearns for the past three

seasons in raising wheat, on his intervalle land has been such that I shall try a small piece on similar land separated from his by the highway only, notwithstanding the general opinion of the meadow farmers that they cannot raise wheat.

Perhaps I should say that Mr. Stearns obtained his seed from Canada. He ordered a bald variety, but it proves a mixture; part bald, part bearded. I enclose an ear of each; also two ears from my field. THOMAS S. FLETCHER.

Fitchville, Vt., Aug. 13, 1871.

REMARKS.—Four well-filled heads of wheat were received, measuring from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches. The berry is plump.

CHERRY TREES IN A PASTURE.

I have a piece of ground lately cleared, that has grown up to red cherry, called bird cherry, that I wish to pasture. Will it injure my stock? Oxford, N. H., Aug., 1871. J. E. C.

REMARKS.—Cattle often run in pastures in which cherry trees are abundant and are not injured by eating the leaves. But there are well authenticated cases of death from eating cherry leaves. Possibly where stock has the variety of food which woodland affords, they have no appetite for cherry leaves, but when kept in a pasture of only grass, there may be an unsatisfied craving which leads them to eat so freely of cherry leaves when they get at them and have nothing else of the kind, as to cause a constipation which results in illness or death. We do not feel safe in answering your question in a more direct manner, but solicit the opinion of others.

GARGET POKE AND INDIAN POKE.

I wish to inquire if poke or white hellebore is what we call Indian poke, a plant that grows in our meadows, with a stubbed stalk two or three feet high, with large leaves and a thick cluster of small light colored roots, which are poisonous.

The hay crop is a very short one in this section. It is like some sheep I have seen with an ear mark that took both ears off close to the head! Haying is not finished up entirely. There are some meadows and a little upland to cut over yet.

We are getting from one-quarter to one-half as much on upland this year as we did last. Meadows are some better than that, but not equal to last year. Other crops are looking well, considering the very dry time we had the first of the season.

Apples are not so plenty as last year, but there will be enough for family use and some cider in those now on the trees remain and ripen.

WILLIAM D. COLEY.

West Springfield, N. H., July 27, 1871.

REMARKS.—Common poke or garget, and Indian poke are different plants. They are ranked by botanists in different orders. The garget poke in Wood's Botany is in Order CV.—*Phytolacca decandra*; the Indian Poke is in Order CXLVIII.—*Veratrum viride*.

Our physicians make considerable use of the Indian poke in their practice, and from its roots the American Hellebore is manufactured. The garget poke is much the largest plant, and is perhaps most readily distinguished by its clusters of purple berries. The Indian poke has only seeds. As similar inquiries have heretofore been made in respect to

these plants, we copy the full description of each from Dr. Bigelow's *Plants of Boston and Vicinity*, which, with the aid of a dictionary, will be understood by those not familiar with the botanical terms used by the writer:—

GARGET POKE.—*Phytolacca decandra*.—Leaves ovate, acute at both ends; flowers with ten stamens and ten styles.

A common plant, known also by the names of *Garget*, *Cocum*, *Jalap*, &c. The root is of large size, frequently exceeding a man's leg in thickness; and is usually divided into two or three principal branches. Its substance is fleshy and fibrous, and easily cut or broken. Internally it is distinctly marked with concentric rings of considerable thickness, while its outer surface is covered with a very thin, brownish bark, which seems to be little more than a cuticle. The stalks, which are annual, frequently grow to the height of six, and even nine feet. They are round, smooth, and very much branched. When young their usual color is green, but in most plants, after the berries have ripened, they are of a fine purple. Leaves scattered, petioled, ovate-oblong, smooth on both sides, ribbed underneath, entire, acute. The flowers grow in long pedunculated racemes opposite to leaves. Peduncles nearly smooth, angular, ascending. Pedicels divaricated, sometimes branched, green, white or purple, furnished with a small linear bract at base, and two others in the middle. Calyx none. Corolla resembling a calyx, whitish, consisting of five round-ovate, concave, in-urving petals. Stamens ten, rather shorter than the petals, with white, roundish, two-lobed anthers. Germ greenish, round, depressed, ten furrowed. Styles ten, short, recurved. The flowers are succeeded by long clusters of dark purple berries, almost black, depressed or flattened, and marked with ten furrows on the sides.—Road-sides.—July, August.—Perennial. The root is a violent emetic.

INDIAN POKE.—HELLEBORE.—*Veratrum viride*.—Panicle downy; partial bractes longer than their pedicels. Segments of the corolla thickened on the inside at base.

A large, green, leafy plant, not uncommon in meadows and swamps. The root is thick and fleshy, its upper portion tunicated, its lower half solid and sending forth a multitude of large, whitish radicles. The stem is from three to five feet high, roundish, solid, striated and pubescent. Throughout the greater part of its length it is closely invested with the sheathing bases of the leaves. The lower leaves are large, from half a foot to a foot long, oval, acuminate, pubescent, strongly plaited and nerved; the lower part of their edges meeting round their stem. The upper leaves become gradually narrower, and the uppermost, which perform the office of bractes, are linear-lanceolate. The flowers are numerous and distributed in compound racemes, axillary from the upper leaves, and terminal; the whole forming a sort of panicle. Peduncles roundish, downy. Bractes boat-shaped, acuminate, downy. The pedicel of each flower is many times shorter than its bracte. Calyx none. Corolla divided into six green, oval, acute, nerved segments, of which the alternate ones are longest. All the segments are contracted at base into a sort of claw with a thickened or cartilaginous edge. Stamens six, with recurved filaments and roundish, two-lobed anthers. Gerns three, cohering, with acute recurved styles as long as the stamens. A part of the flowers are barren and have only the rudiments of styles, so that the plant is strictly polygamous. The seed vessel consists of three capsules united together, separating at top and opening on their inner side. Seeds flat, imbricated.—June.—Perennial.

The root of this plant, when taken internally,

produces violent effects, and is dangerous in considerable quantities. It is chiefly used in the country as an external application in cutaneous affections. From its great affinity in habit to the *Veratrum album*, an European species, which has lately acquired considerable celebrity as a remedy in gout; the American plant is particularly entitled to the attention of physicians.

SOIL FOR, AND SETTING STRAWBERRIES.

Will you inform me through the NEW ENGLAND FARMER what kind of ground is best for strawberries, and when is the best time to set them out?

B. N. F. McLAUGHLIN.

Middleboro, Mass., Aug. 14, 1871.

REMARKS.—A moist, rich loam suits the strawberry best. The soil should be deep,—that is eight or ten inches,—fine, and kept clear of weeds.

As early as the soil is suitable for sowing oats, in April, is a good time to set the plants. Make an opening for the roots, spread them a little and press the earth close about them. Keep the plants moist, and they will soon take vigorous hold of the ground. They will do well if set in August, if the plants are kept moist.

FRANKLIN CO., MAINE.

The cry of lamentation which has been going up from this section for some time is still ascending. The grasshoppers have made fearful havoc with both early and late crops, and are now, no doubt, eating daily more than all the stock. After taking their first choice of vegetation, a scarcity compels them to glean again on what only a few days before was refused. The farmers deprive them of much of their second and third choice, by harvesting any crop that is worth it, as soon as it is fairly determined that it is to be appropriated by them.

This course destroys many, drives others to feed upon the leaves of the trees, and adds to the amount of feed saved for the stock; because if a field of wheat, oats, or corn, whether of one acre or ten acres, is attacked, leaf and stalk are gone in a few days, unless cut at once. Brood after brood of the hoppers come once in about two weeks. When it was very dry they came, and after copious rains they came just the same. One brood feeds on what preceding ones would scarcely touch. Currant bushes are now a favorite. First the leaves, then the bark are taken nearly clean. Young apple trees were taken at an early day, and now the medium sized ones are selected. Corn is stripped, beginning with the tassels, going to silks, leaves, would-be ears, and then the stalks are cut down, if it is not speedily harvested. Localities that were visited by them last year are generally quite free, as far as heard from. Early potatoes were first attacked. The root crop, sowed for feed, has fared hard.

The hay crop, in some sections, is rated at one-fourth; in another at one-third; in another at one-half the average for ten years; and so on, up to a full crop of hay, and in some northern parts of the County it is better than an average, with few hoppers. Hardly any farmers agree with me that we have, as a whole, more than a half crop of hay in this County. I think we have about sixty per cent. Large lots of Western corn are purchased to make up the deficit to some extent.

Wherever farmers meet, this gloomy prospect is the topic of conversation. Politics are forgotten. Short crops and low prices are everywhere discussed, and men seem to look only and constantly on the dark side. But as yet neither man nor beast has starved. The expectations of many have been sadly disappointed, but reverses as well as

successes have their lessons. And our calamity may prove less disastrous than is now generally apprehended.

In consequence of favorable weather early in the season, there was more time than usual for "spring's work." The area of general farm crops was extended. A little more wheat was sown, and a few more potatoes were planted, and so it was with all the crops. When it was found that the early drought was likely to diminish the hay crop, nearly all the farmers planted or sowed an extra patch of corn, or roots, and here and there a little straw or coarse hay was sowed, which too often is thrown into the yard just before haying time, to make room for the new hay. And now many are trimming up nearer to the fences, cutting a load or two in the pastures, beside the brooks, on the hills and elsewhere. With such economy and foresight the severity of our calamity may be mitigated to a greater degree than our fears at present allow us to hope.

O. W. TREE.

Farmington, Me., Aug. 14, 1871.

COLLECTING MUCK.

The swamps and low grounds where muck abounds, are usually as dry soon after the haying season is over, as they ever are. This is the favorable time to collect it. The days are long, the surface is favorable for hauling over, and other farm work not so pressing that a few days cannot be spared for this very important work. A good way is to throw out the muck and allow it to remain a few days in rather small winrows or heaps. In this form much of the water is readily drained off, and with it one-half at least of the weight of the whole. This greatly reduces the cost of carting. If the muck is to be hauled far, it will be cheaper to let it lie where thrown out, or if such place is liable to be inaccessible at a later period, to cart it to some higher land near by, and leave it for late fall or winter transportation.

Many of our farmers do not yet appreciate the value of this material as a manurial agent. More thorough experiments, and a more general use of it, would convince hundreds of its great value.

In his excellent "*Lectures on Agricultural Topics*," Mr. ALEXANDER HYDE, of Lee, Mass., says:—

"As an absorbent, dry muck is very nearly equal to pulverized charcoal, which it much resembles in its chemical constitution. As a basis of compost, we know of nothing superior to it, unless it is leaf-mould from the forest, which is richer in potash and other soluble saline matters. We cannot too strongly insist upon the importance of composting all manures. Not only is the quantity greatly increased, but the quality is also. Much of the barn-yard manure that is carted directly from the yard and ploughed under, is unevenly distributed, is full of seeds, and lies in large lumps, so that the crops do not receive the full benefit of it. By composting, we not only get a much finer manure,

but we also get the mysterious catalytic (that is, dissolution into parts,) influence, by which, in the contact of fermenting nitrogenous substances, the whole mass is fermented, much in the same manner as when, by a little leaven, the whole lump of meal is leavened. We know that there is labor in composting, and that labor costs money; but we very much question whether any labor on the farm is more economically expended than upon the compost heap."

We entirely agree with the writer on this point. It is one of the most profitable and important duties of the farmer, and yet is greatly neglected by a large portion of them.

Gather up the muck now, for muck is manure. It is not sand, nor gravel, nor clay, nor stones, but decomposed vegetable matter with more or less mineral elements of fertility washed into it from higher lands.

For the New England Farmer.

DRAINAGE OF DRY LAND.

I deem it my duty to state, with your permission, through the columns of the FARMER, that in my letter on the drainage of wet and dry lands, published in your issue of May 20th, I said, at that time, all I intended to say on the subject. I tried to write plainly, and to keep to my subject, and made but one point wherein I differed from your very learned Boston correspondent, Mr. Fireside Farmer, and that was this:—that the dry lands, such as I there described, which are only a fair sample of thousands of acres of similar lands in the vicinity where I am writing this letter, and of many others scattered all over New England, do not need artificial draining.

They are what I call dry sub-soil lands. They vary from very coarse, light sandy loam, to that which is finer, heavier and more compact. In some places they are rocky and hilly, in other places they are level, free from stone and sandy. But all agree in one particular, their subsoil is dry. No water ever stands so near the surface as to obstruct the roots of plants in their downward course in search of food and moisture. I have examined the lower strata of these soils in our vicinity pretty thoroughly for the last forty-five years, where I have owned and worked a small farm of this kind of land, on which I have sunk wells, and have assisted and been present where wells have been sunk on other farms. Usually it is necessary to go down all the way from ten to thirty feet, to reach permanent living, standing water. Such land, in my opinion, is sufficiently drained naturally.

I will now define for my worthy friend what I mean by the natural drainage these lands already possess. I may differ from him somewhat on this point also. By natural drainage, I mean that perpendicular drainage I alluded to in my letter, published in the FARMER of May 20th. My theory and belief is this: All such dry subsoil lands are sufficiently

drained by those innumerable little pores and subterranean channels, whereby the surface water that is formed by the storms, gentle showers of rain and melted snows, find their way down to the standing water in the lower strata of the earth; the soil absorbing from them as they descend, their heat and other valuable properties they may contain. So also the air, as the surface water settles away, enters the soil by the numerous little veins left vacant by the receding water, and impart heat to the soil, and perhaps other beneficial influences; and the same may be said of the dews, which have ample room, and find these soils in proper condition in which to perform their office.

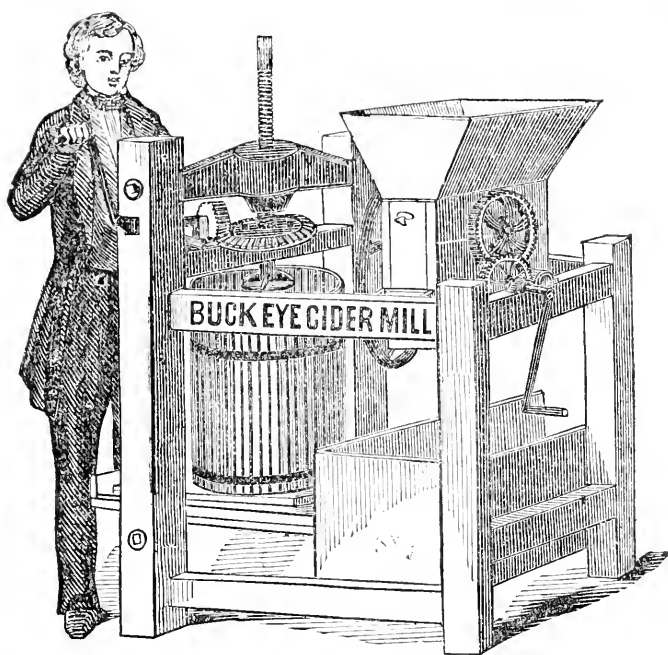
Thus I have tried to be brief, and to the point. I think that these dry lands need no artificial drainage, and I state my honest convictions, according to my present light, as gathered from an experience of more than fifty years, that, as man and boy, I have worked these kinds of lands: using the hoe, widdling the spade, and holding the plough with my own hands.

But I claim to belong to the party of progress in agriculture, and if your Boston correspondent has practical facts in his possession that will show how these dry New England lands can be benefited by artificial drainage, I am all attention, and should be very happy to read his communications on the subject. If he has not any of these facts to controvert the theory I have laid down, and the point I have tried to make in this letter, it seems to me to be arrant nonsense to pursue this subject any farther in its present form, as my worthy friend seems to be treating the drainage of dry, gritty soil in Scotland forty years ago, while what I have written on the drainage of dry and wet lands has reference to lands of this kind here in New England, such as I have described in this letter.

One thing more. My worthy friend says in his last letter to the FARMER, that there is much fructifying matter in rains and snows, which, if allowed to sink into the soil, instead of being washed off its surface, make a fair manuring of themselves. In this proposition I agree with him in part; but will venture a good honest Yankee guess, that should a farmer rely on the above dressing to feed his growing crops, he would soon have to resort to the manure heap or ruin his land. He would find himself in the condition of the individual who set out to live by faith, but after getting somewhat reduced by hunger, concluded he would modify his views somewhat and take a little bread and cheese. ROYAL SMITH.

Millington, Mass., August 7th, 1871.

—An Iowa paper says that a drover near Knoxville let forty-two hogs go without water, one hot day last week, and that they all died in consequence.



THE BUCKEYE CIDER MILL.

As completely presses the cider from the bottom of its press as from the top, and leaves the cheese nearly dry in all parts. It is strongly geared, beside having great strength in its lever and screw. Easily operated by a man or boy. Very durable. Occupies but small space. Lasts a life time without getting out of order. Buy a Portable Mill and make your own cider at home, at any time when it is convenient to do so, thus saving the labor and expense of handling and carting to a distant mill, and the amount required for profit by the mill owner.

CONSOLATIONS.

The grass crop is light; very light, all over New England. Our barns, wont to be plethoric with rich harvests, are comparatively lean and barren. The daylight peeps through many a crack which has usually been closed by rich clover, redtop or timothy, and we look at the half-filled bays and scanty scaffolds with anxious inquiries as to what we are to do with our stock,—with the splendid two and four-year-old Devon steers, upon which so much promise of future usefulness and profit rested;

with the “Fearnought” and “Knox” colts; with the young Aldernyes, Ayrshires and Short-horns, whose sales were to assist in lifting a mortgage, building a barn, repairing the house, or furnishing the outfit of a beloved daughter, who is soon to go out from the old roof-tree and establish a home of her own!

Two things are indispensable to us in this emergency,—Faith and Pluck. First, Faith:

“Judge not the Lord by feeble sense,
But trust Him for his grace;
Behind a frowning providence
He hides a smiling face.”

How much consolation may be derived from a frequent repetition of the above lines, and the reception of their sentiment into our inmost hearts, no one can tell until it is tried. “He who tempers the wind to the shorn lamb,” will order all our temporal affairs as will be best for us, if we receive the ordinances of Heaven in a spirit of acquiescence and humble trust.

Second, Pluck. A good old word, meaning spirit, perseverance under discouragement; indomitableness, courage, hope. Hoping for the best begets pluck, and a plucky spirit overcomes most obstacles.

Some farmers have already yielded, even before a pressure came, and offer to sell good cows at \$10 each, and other stock at greatly reduced rates! In this there is evidently a want of both faith and pluck. Let us patiently wait and look and philosophize a little. Let us see if some compensations may not spring up to balance our losses.

Last year we were burdened with a crop of apples. They were fed to the cows, horses, swine, and boiled for the poultry. They were made into cider in vast quantities,—one mill near us having made 2,500 barrels!

Now, how many millions of the *June moth*—that persistent enemy of the apple—were fed and reared by the apple crop of last year? And so of the *curculio*. Allowing four eggs to each apple to have been deposited in the growing fruit, how many legions would have been perpetuated this season if the trees had blossomed and put forth their fruit! No tongue can tell. The stars of heaven and sands of the seashore would have been outnumbered by them. But what will those destructives do now? They will not find their meat in due season, but must go down to the earth and die. In this the whole race of these pests may be exterminated, and future crops be abundant and fair. As with the two mentioned, so it may be with numerous other insects which prey upon crops, so that we *may* be greatly relieved for many years to come.

May there not be comfort and consolation gathered from this?

Corn and potatoes promise now abundant crops. The small grains were good, and recent rains are greatly assisting the second growth of grass. All these will assist in making up the deficiency in the general hay crop.

Again, the short hay crop suggests *economy*. Hundreds of acres were cut over which have been left untouched before, and their scanty crops harvested with care.

A strict economy will be observed, also, in feeding stock. A little at a time, and often, will be the rule; and as grain will be as cheap as hay, large quantities will be used. The hay cutter will be put in use, the different qualities of fodder, mixed and mingled with meal, will take the place of long fodder, and a great saving made in this way. Under this system of feeding it is quite probable that as much stock may be well kept the coming winter, as there was last winter.

There is a little panic now among stock-growers. We advise patience and moderation. Hold on. A ton of good corn can be purchased as low as a ton of good hay, and hay, we think, will be no higher in mid-winter than it is at present.

At any rate, no calamity is imminent. Have faith in an overruling Providence, be virtuous, practice economy, and all will be well.

For the New England Farmer.

PLOUGHS.

I hear considerable in regard to ploughs and ploughing, but more especially about the swivel plough, of which there are several makes. Now, the question in my mind is, which is the best one for all kinds of work, taking into consideration ease in holding, amount of work performed, amount of motive power required to disintegrate the soil to a given point, and money cost. Some say that the one known as the "Lebanon plough," made in Lebanon, N. H., is *the one*, but there is one serious objection to it; to keep it where it should be there must be a heavy, constant strain on the handles, that will quickly fatigue the strongest man,—or that is my experience.

Then there is a plough made in Brandon, Vt., the trouble with which is that it will not "run in" easily, and does not turn the furrow over flat enough on level land, though there is a difference of opinion on the latter point, caused perhaps by some little difference in different ploughs from the same factory.

The Holbrook plough is but little known here, but is strongly advocated by some and spoken lightly of by others (mainly agents for other makes); some say it is just the thing, others that it is a costly, heavy, unwieldy concern.

The next in the category is the "Luffkin Patent," which is a good plough with a heavy team, doing good work when one side up, but reversed, not quite so good. But there are serious objections in the way of its being considered the best: it has never been entered in any (if I am rightly informed) public competition with other ploughs to decide this vexed question. I have been informed that at the Springfield, Vt., trial, it was not entered, though the agent was requested to put it in. Then the plough is only sold by agents who purchase State, county or town rights, as they see fit, and charge \$6 commission on each and every plough sold by them, making the cost to be \$18, which is a pretty good profit, and manifestly unjust to the manufacturers and public.

To settle this important question, I would suggest that those that manufacture ploughs inform the public just what they have got, its price, amount of draft in pounds to turn a

furrow of given dimensions, and what it will do, and then sell at living prices in localities to suit the public, so if pieces are required they can be procured at small expense for expressage or freight. If they have a good thing, they can afford to do this; if they have not, they will probably keep out.

A good swivel plough is greatly needed by a large number of our farmers, but they wish to know before purchasing if it will do the work they have to do, and do not wish to travel from fifty to two hundred miles for information that would cost the parties from \$2 to \$5 per week to furnish to the whole public.

If you or some of your correspondents will give a few facts in regard to this matter, you will confer a great favor on me, and perhaps others that need such an implement. JONES.

Addison Co., Vt., July 3, 1871.

MOVABLE COMB HIVE.

The movable comb-hive is, as its name signifies, a hive in which each sheet of comb is movable, and can be taken out at will. The common or old-fashioned "bee gum" being simply a box or hollow log, the bees fasten their comb to the top and sides of it, making it impossible to remove the comb but by cutting it out. Now, by filling this box with frames so arranged that each comb will be built in a frame, and these frames easily removed, we have a movable comb-hive. The principles which govern the practical movable comb-hive are these:—

1. The parts intended to be movable should touch the hive in as few places as possible. Bees fasten with propolis every joint in a hive, making a hive improperly constructed practically an immovable comb-hive.

2. Every part not intended to be in contact, should be so far separated that a bee can pass, and so near that comb will not be built between. Bees are sure to fill up any place they cannot pass between readily with propolis, making it difficult to separate the parts. Three-eighths of an inch is found to be the proper distance.

3. The hive should be so arranged that it can be easily opened, and the frames taken out and returned without killing a bee. A hive that cannot be so opened is sure to be neglected; and it should be borne in mind that a movable comb-hive is no better than the common box, only as its movable features are made use of. There is no *luck* in a movable comb-hive; and it is frequently, if not generally, the case, that a person who does not succeed with the common hive will not be successful with the movable comb. The frames must have something under the top bar to guide the bees in building their comb. A triangle fastened to or worked on it will do this. The first movable comb-hive did not have this guide, consequently comb was frequently built across the frames, making it

difficult, if not impossible, to remove them. A patent was taken out a few years ago for the device, but as it is not a valid one it is free to all.

Mr. Langstroth invented and patented the movable comb-hive; and though there are thousands of patent movable comb-hives, most of them have adopted some of Mr. Langstroth's devices; and it is not too much to say, that the nearer a hive approaches to the Langstroth, the more nearly perfect it is.—*National Live Stock Journal.*

TUB CHEESE.—Mrs. O. C. Smith, of West Waterville, gives in the *Maine Farmer* the following particulars of her manner of making tub cheese, which she says are very good. Take an ash tub that will hold about six gallons, soak it in salt and water about three days before using. Bore six or eight holes in the bottom of the tub. I then run up my milk the same as usual for a pressed cheese, chopping and salting the curd. I then place a cloth two thicknesses in the bottom of the tub, put in my curd, placing another cloth four thicknesses on the top of the curd, then put on the follower and a stone of about 15 pounds. I proceed in like manner every day, changing the top cloth for a dry one every time I put in a new curd. When the tub is full or nearly so, I then spread over the top a thin layer of butter to keep out the air, cover tight and set it away in a cool place until ready for use.

POULTRY CONDIMENTS OR TONICS.—Mr. Mills, a French apothecary, recommends, from personal experience, the following as an unfailing tonic or stimulant for debilitated fowls, and especially for young turkeys during the critical stage, when he says its effects are most marked and salutary:—Take cassia bark in fine powder, three parts; ginger, ten parts; gentian, one part; anise seed, one part; carbonate of iron, five parts; mix thoroughly by sifting. A teaspoonful of the powder should be mingled with the dough for twenty turkeys, each morning and evening. It is of the greatest importance to begin the treatment a fortnight before the appearance of the red, and to continue it two or three weeks after. If this precaution be taken in time, there is no need of losing a single turkey in a brood.

CLEANSE THE SKIN.—It is a curious fact illustrating the necessity of cleanliness, and of keeping the pores of the skin open, that if a coat of varnish or other substance impervious to moisture be applied to the exterior of the body, death will ensue in about six hours. The experiment was once tried on a child at Florence. On the occasion of Pope Leo the Tenth's accession to the papal chair, it was desired to have a living figure to represent

the Golden Age, and so a child was gilded all over with varnish and gold leaf. The child died in a few hours. If the fur of a rabbit or the skin of a pig be covered with a solution of India rubber in naphtha, the animal ceases to breathe in a couple of hours.—*Manufacturer and Builder*.

THE NATIONAL SWINE EXPOSITION.—The *Western Rural* says that this exhibition bids fair to surpass the expectation of its projectors and friends. We are pleased to learn that very many breeders and stock men from distant States have signified their intention to be present with stock. Letters have been received from breeders and stock raisers in Kentucky, Tennessee, Ohio, West Virginia, Pennsylvania, New York, New England, and the Canadas, apprizing the managers of the Exposition, that accommodations for stock will be required from those sections of the country. And it is now definitely understood that nearly every prominent breeder in the North-west will be represented. The opportunity to contrast the merits of different breeds, and different strains of blood of the same breeds, will thus be afforded, and the very best means presented for arriving at a correct judgment upon many important questions relating to the breeding and management of swine.

MULCHING WINTER WHEAT.—Two experiments in spreading coarse strawy manure as a mulch, in November, on land sown to winter wheat in September, were tried at the farm of the University of Wisconsin, last season, and the result is published in the *Western Farmer*. The product of the White Tonzelle variety was 13.51 pounds to one of seed, or 23.38 bushels per acre; of the Red Soisette variety, 13.76 pounds for one of seed, or 22.01 bushels per acre. Though similar plots were not tried without the mulch, to test the comparative increase of yield from its use, the results are regarded as encouraging. The superintendent of the farm, Mr. Henry H. McAfee, says: "Care should be exercised to not get the mulch too thick in spots, as that cause killed out quite a lot of the young plants in the above experiments."

DEPRECIATION IN CROPS.—We doubt the correctness of the conclusions of many agricultural writers as to the great depreciation in the amount of wheat and other crops of modern times as compared with the golden period of "forty years ago." We apprehend that the assumed average of the olden harvests is over-estimated, and that of our day is rated too low. We see notices of crops of wheat this year in Michigan that would compare well with the celebrated production of Genesee, when that country was new. James H. Graham, of Mason, had a yield this season of thirty-five bushels and a peck per acre on a field of five acres. Mr. C. T. Beck, of Monroe, thirty-seven bushels

and six quarts per acre from five and a half acres. As the mould of forty years gathers on these statements, will not the agricultural writers of those days cite them as evidences of the crops of wheat which were harvested by the ancients of 1871? "Distance lends enchantment to the view."

EXTRACTS AND REPLIES.

THE SPANISH OR BLISTER-FLY POTATO BEETLE.

I enclose two bugs which I found on my potatoes. They do not appear to me like the kind described in the *FARMER* of July 1. If they are not like them, please describe them and tell us what will keep them off the vines. T. E. LOOMIS.

North Amherst, Mass., July 17, 1871.

A pest has made its appearance in different localities in the form of a potato bug, the like of which has not been known among us. Of its origin and habits there is but little known. They seem to herd together, and make clean work as they go. At first but a few hills will be infested, and when these are stripped of their leaves they move on. They appear very lively, in companies of hundreds on one hill, but when disturbed they "play possum," dropping to the ground and make believe dead. They appear to be particularly fond of the "Early Rose," for it is the first to be attacked.

I herewith send you a specimen, and would like to hear from you respecting the "baste."

Vienna, Me., Aug. 19, 1871. W. R. BROWN.

REMARKS.—A reply was prepared to the inquiry of Mr. Loomis, and put in a book in which we marked an extract descriptive of the insect received, and was thus forgotten. We at once recognized Mr. Brown's "baste" as a near relative of Mr. Loomis's bug, and on turning to our book for a description of the insect last received, we found Mr. Loomis's letter and our reply lying snugly between its leaves.

Both of these insects belong to the Blister-beetle family, known in the books as *Cantharide* or *Meloidæ*. The variety from Mr. Loomis is named *Cantharis cinerea*, by Fabricius. Mr. Harris says "this is the most destructive *Cantharis* found in Massachusetts. It is about six-tenths of an inch in length. The word *cinerea* means ash-colored; the insect being covered with a very short down of that color. When it is rubbed the ash-colored substance comes off, leaving the surface black. It begins to appear in gardens about the twentieth of June, and is very fond of the leaves of the English bean, which it sometimes entirely destroys. It is also occasionally found in considerable numbers on potato-vines; and in Cambridge, Massachusetts, it has repeatedly appeared in great profusion upon hedges of the honey-locust, which have been entirely stripped of foliage by these voracious insects. They are also found on the wild indigo-weed. In the night, and in rainy weather, they descend from the plants, and burrow in the ground, or under leaves and tufts of grass. Thither also they retire for shelter during the heat of the day, being most actively engaged in eating in the morning and evening. About the first of August they go into the ground and lay their eggs, and these are

hatched in the course of one month. The larvae are slender, somewhat flattened grubs, of a yellowish color, banded with black, with a small reddish head, and six legs. These grubs are very active in their motions, and appear to live upon fine roots in the ground; but I have not been able to keep them till they arrived at maturity, and therefore know nothing further of their history."

The insect sent by Mr. Brown is named *Cantharis atrata*, and is coal black. It is about half an inch in length. It appears about the middle of August, and into September. Mr. Harris says "it feeds on potato-vines, and also on the blossoms and leaves of various kinds of golden-rod. In some places it is as plentiful in potato-fields as the striped and the margined *Cantharis*, and by its serious ravages has often excited attention. These three kinds, in fact, are often confounded under the common name of potato-flies; and it is still more remarkable, that they are collected for medical use, and are sold in our shops by the name of *Cantharis vittata*, without a suspicion of their being distinct from each other. I have repeatedly taken these insects, in considerable quantities, by brushing or shaking them from the potato-vines into a broad tin pan, from which they were emptied into a covered pail containing a little water in it, which, by wetting their wings, prevented their flying out when the pail was uncovered. Or they may be caught by gently sweeping the plants they frequent with a deep muslin bag-net. They should be killed by throwing them into scalding water, for one or two minutes, after which they may be spread out on sheets of paper to dry, and may be made profitable by selling them to the apothecaries for medical use."

Mr. Harris gives the following description of the family to which the blistering beetles belong. To compare one of these insects in some of the particulars of his description, a magnifying glass will be necessary.

"The head is broad and nearly heart-shaped, and it is joined to the thorax by a narrow neck. The antennae are rather long and tapering, sometimes knotted in the middle, particularly in the males. The thorax varies in form, but is generally much narrower than the wing-covers. The latter are soft and flexible, more or less bent down at the sides of the body, usually long and narrow, sometimes short and overlapping on their inner edges. The legs are long and slender; the soles of the feet are not broad, and are not cushioned beneath; and the claws are split to the bottom, or double, so that there appear to be four claws to each foot. The body is quite soft, and when handled, a yellowish fluid, of a disagreeable smell, comes out of the joints. These beetles are timid insects, and when alarmed they draw up their legs and feign themselves dead. Nearly all of them have the power of raising blisters when applied to the skin, and they retain it even when dead and perfectly dry."

HOW SHALL I RESTORE EXHAUSTED SOILS?—ROTTEN PLACES.

Last spring I broke up ten acres of an old field that did not produce 200 pounds of hay per acre, and planted to corn and potatoes, using on the whole, one and one-half tons superphosphate, and three-fourths ton plaster in the hill,—nothing else. Crops look well now. What I want is to get it into grass. The soil is a sandy loam. Will it pay to draw gas lime three miles, spread this fall after the ground is ploughed, then in the spring put on plaster, ashes, and salt, sow to barley and seed down?

The farm is one I bought last fall, and is badly run down. How would you advise me to go to work to bring it into grass again?

When I was ploughing the ground last spring there were several places where the earth looked black, and there was no sward at all. We called them the rotten places. You can see those spots now in both corn and potatoes. They have not grown at all. What is lacking in the soil?

I intend to break up about twenty acres more of an old field this fall, sow rye and seed down, then in the spring sow plaster. Would it be better to sow the plaster when I sow the grain? I have tried five kinds of phosphates. When I harvest I will let you know which does the best.

H. W. LORING.

Leviston, Me., Aug. 14, 1871.

REMARKS.—The plan which you propose to restore your exhausted lands to fertility, seems to be a good one, provided the gas lime is valuable. We do not know enough about it to give an opinion as to its merits. Reports which have come to us in relation to it are contradictory. Test it on an acre or two, and gain the information you seek by your own experience. In the mean time, the plaster, ashes and salt will enable you to get paying crops, provided you plough and cultivate thoroughly, keeping the soil light and porous all the time, and allowing no weeds to grow. When you have brought up the soil so as to produce a fair crop of clover, you are then "master of the situation," and can produce about what crops you please. If possible, however, encourage every crop with a sprinkling at least of stable manure.

Little can be said about the "rotten places" of which you speak without of an examination of the soil. We have known spots to become barren by heaps of acid muck being placed upon them,—so thoroughly barren that no vegetation would grow upon them for several years after the muck was removed. Sometimes water finds its way to the surface, in particular places, that is impregnated with sulphur, or iron, to such an extent that nothing will grow upon the ground saturated with it. Dress one or two spots with quick lime, or some strong alkali, and note its effects. Perhaps a liberal dressing of wood ashes would restore them.

A LAME HORSE.

As I see you allow farmers in trouble to ask you questions, I wish to ask one about my horse. He is lame behind, and has been for nearly a year, but I can find no sore spot, neither does he favor it in the least while standing. He limps when he first starts, but by travelling he seems to get over it in a degree, but is now growing worse. Sometimes in turning, if he happens to twist his leg a little, he

shown very plainly he is hurt. Many of the horse-men have said there was a *spavin coming*, but if that is the case, it is time, it seems to me, for it to show itself. I think it is higher up, but I can find no soreness to indicate where. Perhaps you or your readers may have had some experience in troubles of this kind, and may be able to tell me what the matter is and how to cure it.

SUBSCRIBER.

Harvard, Mass., Aug. 14, 1871.

REMARKS.—Horses are liable to become lame from a great variety of causes. In many cases, the lameness is not apparent to the eye or the touch. Some of them, perhaps, are rheumatic, and are more evident when the animal first starts off. He limps a little then, but after getting warmed up a little, the limping ceases, and he is all right again.

He may have what veterinary surgeons call an "Occult spavin;" that is, a spavin in progress, that may in the future become developed.

Another very common source of lameness is injury to the cartilage of the foot. This injury may arise from various causes. By hauling heavy loads up hill, by stepping upon a stone, or by driving fast down hill, especially if there is much load behind the animal. When the cartilage of any part of the foot is severely injured it gradually becomes ossified, or changed from a soft, pliable mass into a bony substance. While this process is going on the pad becomes excessively painful, as in the formation of a ringbone. It will be an important point gained to learn whether the lameness is in the foot or hip.

Some of our readers may be able to enlighten you, but the safest course will be to seek the advice of a veterinary surgeon.

SATURNIA 10.

The enclosed was found on a bean leaf. Please tell us about it in the NEW ENGLAND FARMER.

J. B. HOWE.

Petersham, Mass., Aug. 22, 1871.

REMARKS.—You will find a description, with beautiful illustrations of the caterpillar, cocoon, chrysalis, male and female moth or butterfly, in the 1862 edition of Mr. Harris's Treatise on Insects, which occupy some four pages. The State made a liberal appropriation for the publication of this edition, and at least one copy ought to be found in each town. Every neighborhood library ought also to have a copy.

The caterpillars are of a pale pea-green color, with a brown stripe, edged below with white, on each side of the body. They are covered with clusters of green prickles, tipped with black, which sting severely, as we had occasion to learn when a boy. In eating some fruit in the dark we took one of these creatures into our mouth, the upper part of which was filled with the prickles, causing much pain and discomfort for some time, notwithstanding all that could be done; giving us a caution about eating or drinking in the dark that we have never forgotten.

On the hind wings of the moth are two conspicu-

ous eye-spots, from which the insect receives its name, as the books say, in allusion to the ancient Greek herione, *Io*, who, as the fable went, was jealously guarded by the hundred-eyed Argus. The sexes differ greatly from each other; the general color of the male moth being deep yellow and that of the female, purple brown, though the same pattern is observable in both. These moths expand about three inches. We are not aware that they ever cause much damage to vegetation.

RE-SEEDING GRASS LAND.

My newly laid-down fields are scantily covered with grass. Would it be a good plan to sow on Orchard grass seed to fill vacancies? If so, will this month or September be the best time for doing it?

WM. P. ENDICOTT.

Milford, N. H., Aug. 16, 1871.

REMARKS.—One of the best fields of clover we have seen this season was on a field laid down in the spring of 1870. Owing to the drought which followed, the grass seed did not come. During the last week of August, last year, the field was harrowed over, grass and clover seed sowed, and the ground brushed over. One fine crop of clover has been cut this summer, and a good second crop is now standing—Aug. 21,—on the ground. On inquiry, we learn that the practice is quite common in the neighborhood where this occurred, and usually with good results. We intend to try it on fields in the same condition as those you describe. Weeds may be in the way; if so, we must pull them out. The earlier the seed is in the better; but up to middle September will do.

FOOT ROT IN COWS.

I have three cows that have the foot rot. I have used nitric acid to cut it and carbolic acid and lard for ointment, but to no avail. I wish to know if anything can be done for them and what?

SUBSCRIBER.

North Adams, Mass., Aug. 26, 1871.

REMARKS.—In reply to an inquiry for a remedy for cows that had a raw surface between the hoofs, and extending up to near the fetlock of the hind foot, Prof. Law directed to have the foot between the hoofs thoroughly cleaned by washing or by drawing a piece of rag through it; then sprinkle it with calomel and cover up with tow and tar, retained in position by a bandage. Keep dry and clean, and repeat the dressing daily.

In speaking of the "foul in the foot," Dr. Dadd says, that the disease is caused by the sudden stoppage of some natural evacuation, is evident from the following facts: First, the disease is most prevalent in cold, low, marshy countries, where the foot is kept constantly moist. Secondly, the disease is neither contagious nor epidemic.

In all cases of obstruction to the depurating apparatus there is a loss of equilibrium between secretion and excretion. The first object is, to restore the lost function. Previously, however, to doing so, the animal must be removed to a dry situation. The cause once removed, the cure is

easy, provided we merely assist nature and follow her teachings. As warmth and moisture are known to relax all animal fibre, the part should be relaxed, warmed and cleansed, first by warm water and soap, lastly by poultice; at the same time bearing in mind that the object is not to produce or invite suppuration, (formation of matter,) but only to liberate the excess of morbid materials that may already be present; as soon as this is accomplished, the poultice should be discontinued. Make a poultice of

Roots of marshmallows, bruised,	half a pound,
Powdered charcoal,	a handful,
" lobelia,	a few ounces,
Meal,	a tea-cupful,

with boiling water sufficient to soften the mass. Put the ingredients into a bag, and secure it above the fetlock. Give the animal the following at a dose:—

Flowers of sulphur,	half an ounce,
Powdered sassafras bark,	1 ounce.
Burdock, (any part of the plant,)	2 ounces.

The above to be steeped in one quart of boiling water. When cool, strain. All that is now needed is to keep the part cleansed, and at rest. If a fetid smell still remains, wet the cleft, morning and evening, with chloride of soda, one ounce; water, six ounces, mixed.

Mr. A. B. Lyman, of Easthampton, Mass., says in a communication to the *New England Homestead*, "some of the cows in this town are troubled with foot rot. Bleeding from the foot and dropping hot tar from a heated iron into the sore, is the best remedy that we know of."

The term "foot-rot" is probably used by different individuals as the name of different diseases,—those which should be treated differently. Without a clear idea of the trouble with our correspondent's cows, we give the foregoing in the hope that it may prove of some use to him, and to others who have cattle with diseased feet.

MUSHROOMS.

Are mushrooms sold in the market, and can they be raised from those growing about our farms.
Addison County, Vt., 1871. T. H.

REMARKS.—Mushrooms are sold in the market. They are raised from seeds, or spores, or spawn, which are also for sale in this market. So much we learn from Hiland, Smith & Co., of Fanenil Hall market. The American Encyclopedia says, "The common mushroom belongs to the natural order of *Fungi*; most species of which are poisonous, and fatal consequences have resulted from not knowing how to distinguish the few which are valuable from the majority which are dangerous." Directions for the cultivation of mushrooms are given in most works on gardening. Mr. Henderson says some place in a green-house or elsewhere, in which a temperature of 40° to 60° can be sustained during the winter, is the first requisite. Mr. Burr speaks of the artificial management of mushrooms as difficult. Mr. Henderson says that on

commencing their cultivation he "labored for two years without being able to produce a single mushroom." Several varieties of field mushrooms are edible, but we understand that only one kind is cultivated.

SULPHUR FOR LICE ON ANIMALS.

We see many inquiries about lice on cattle, and many remedies proposed, most of which are both ridiculous and barbarous, and about as useful in performing a cure as are snow balls in heating an oven. Any man who would apply oil or grease to his cattle in winter, had better saturate his shirt or even his gloves with that substance, and pass half an hour in his barn some cold winter morning. We warrant he will not be very quiet there and will step quick toward the nearest fire when his time is out. And yet this is a mild and sensible remedy compared with many that are recommended.

Some dozen years since, I entered upon a farm, the barn of which was overrun with every kind of lice that ever infested a barn. Both cattle and horses were tormented. My remedy has been dry sulphur sprinkled occasionally in the hair of each animal, and I have not seen a louse on the premises for years. Sulphur is also effectual in case of poultry. Take them by the legs, hang their heads downward and sprinkle it among the feathers.

I know of no insect that will remain in contact with it. While for all farm animals it is a healthy condiment, and an antidote for many of their diseases. Where a barn is so badly infested as mine was, it would perhaps hasten the work to put naphthum in the crevices of the stalls and stanchions (not where it can touch the animals) and sprinkle the floor a few times with dry ashes.

D. L. TOLMAN.

Marlboro' Depot, N. H., 1871.

RAISING WINTER WHEAT.

Not far from twenty years ago, wheat was getting to be quite dear and I thought I would try my hick in raising it. I went to an old neighbor for advice, who had been in the habit of raising wheat on new land. He told me it must not be sowed until there had been two or three frosts which would destroy a fly that would attack the wheat if sown before. I followed his directions, and the result of it was it nearly all winter killed. There were a few scattering heads gathered which made nearly two quarts. I concluded I would not give up so. I then selected a piece of ground on the east side of a small knoll, warm and dry land, sowed my two quarts of wheat about the first of September, and had a good yield. I learned by this experience that winter wheat must be sown on land where it slopes to the south or east, where the snow will be more likely to remain, as wheat wants to be covered with snow to keep it warm; then it will come out bright in the spring. East or south of a forest is a good location for wheat.

As a general thing I sow my wheat after corn. It should be sown before the tenth of September to have it get well rooted. I make my land rich enough to produce a good crop of corn, and sow without any other preparation than would be given for rye. I think I raise as many bushels of wheat as of rye to the acre, side by side, the land in the same condition. I have ploughed green sward and put on compost manure made of muck and barn yard manure. I have had crops of from ten to fifteen bushels per acre on light loamy land. I seed it to herdsgrass when I sow the wheat, and sow clover seed in April and bush it in. I then get two or three good crops of hay. I have managed in this way for the last twenty years, and I have had good success, except one year about

four years ago, we had a dry fall. My wheat did not come up until too late to grow much before winter. The result was it winter killed; or as some would say, spring killed; for the roots were injured by freezing and thawing. This crop was nearly a failure. Hence I conclude that wheat should be well started in the fall. Neither cattle nor sheep must be allowed to eat it off, for all the leaves are needed to protect the roots from the cold. I have raised all the wheat I have needed for family use, and have sold some. The variety I have mostly raised is called the White Bald. It makes good flour.

I think there are not many farms in the New England States that might not be made to raise all the wheat, either winter or spring, that the families living upon them need, if they would take hold of it in earnest and persevere in it. If this is so, what a vast sum of money could be saved at home, that now goes West for flour. I think it is easier to raise wheat than it is tobacco, though I have never tried the latter. I think if I should make my wheat land as rich as tobacco land must be to produce a crop, I could raise from fifteen to twenty-five bushels per acre, and two crops of it would not reduce the land more than one of tobacco.

M. L. GODELL.

South Amherst, Mass., July 24, 1871.

REMARKS.—We very much regret that the publication of this valuable article has been delayed by oversight on our part.

JONES AND SMITH.

What Jones is this I see in print,

Who's everything so snug and nice?

I wonder if his back was ever bent,

And is he also free from vice?

And who is this unlucky Smith,

Whose tools and stock are all awry?

Perhaps poor Smith has not wherewith

Such fashionable things to buy.

J. C.

Chilton, Mass., Aug. 14, 1871.

BLOODY WATER IN COWS.

I noticed in this week's FARMER an inquiry by Henry Miller for a remedy to cure red water in cows. I have a cow that last Spring had the red water very badly. I gave her a quart of Slippery Elm tea once a day for a week, and gave her a half peck of potatoes twice a day until all signs of it disappeared, which was in about two weeks. I have seen no signs of it since, and the cow has done nicely all summer. I have known of several cows cured in the same way. Never knew it fail. If Mr. Miller should see fit to try it, I hope he will let us know the result.

C. A. CRAMPTON.

West Acton, Mass., Aug. 18, 1871.

WHEAT IN VERMONT.

The important communication from Thomas S. Fletcher of Felchville, Vt., should not fail to remind every farmer of his positive duty in raising his own bread. How sure and certain is his crop of wheat if he will but "apply his heart unto wisdom." Re-read the practice of Rufus Stearns, in the FARMER of the 26th August; also, of Jarvis Pratt. Mr. Stearns has raised wheat with perfect success and "not a failure for twenty years! He thinks he has averaged twenty-five bushels per acre, and one year he raised forty-five bushels on seven-eighths of an acre." The communication speaks of three practical farmers, and it speaks volumes of wisdom to every listening farmer. It reports double the average yield of the Western States; and a more sure crop in New England soil than in the West. It is every word truth.

Now farmers, please wake up, one and all, and fail not to put in a crop of winter wheat, even

should it be as late as the 15th of September. Plough in the green crop (mowing land) and while in a state of heat and fermentation, it gives rapid growth to the wheat which will continue to grow till the furrow freezes deep. We would recommend to cover with the cultivator to give it a depth of two to three inches, which guards against winter killing. To give it quick germination, soak in brine and rake in ashes or lime. Farmers will find plenty of winter seed in Boston, if difficult to be obtained nearer home.

HENRY POOR.

Long Island, N. Y., Aug. 26, 1871.

YOUNG DUCKS DIED.

I see some of the members of the NEW ENGLAND FARMERS' Club are having poor luck with their poultry, and having had poor luck in raising ducks, perhaps some one can tell what the trouble was. The ducks hatched well and the young grew finely for a few weeks, and then they would droop and die. Sometimes at feeding all would be smart, but in a few minutes some would be taken with the "dumps" and die immediately. Can any one tell us the cause and cure?

T. B.

Addison County, Vt., 1871.

AGRICULTURAL ITEMS.

—The Salt Lake dailies have notices of the "\$40,000 worth of improved breeds of cattle and sheep, from the far-famed Kentucky herds."

—It seems reasonable that a laboring horse should have room to lie in at night, where he can turn over and shift about.

—A five-year-old city boy told his mother how to make butter: "You just take a long stick with a cross at the end of it; then you get a big tub; and then you borrow a cow."

—A tablespoonful of spirits of turpentine to three quarts of meal used for chicken food is recommended by one correspondent of the *Rural New Yorker*, for the gapes; and strong pepper, by another one.

—A correspondent of the *Willimette Farmer* feeds his stock a tablespoonful of sulphur to each animal, with their salt, once in two weeks. When he has done so, no vermin has troubled them, and his cows have not been affected with garget, nor his sheep with grub in the head. He has practiced this twenty years.

—Peter Gilbert writes to the *Rural New Yorker*: "Flies have been so bad on my horses that I found it almost impossible to work them. I took smart weed and soaked it in water, and in the morning applied it to the horses with a sponge, all over them, and found the horses to work along without any further trouble, the flies not annoying them in the least."

—A northern firm have recently leased a large grazing farm in Powhatan Co., Va., and are stocking it with goats, to the raising of which it will be entirely devoted. They have started with 200 and will increase the number to 15,000 or 18,000 as soon as they can get them. Besides their value in the dairy, the skins bring a large profit in northern markets.

For the New England Farmer.

HOBBIES---BLOODED STOCK.

When I wrote my last article, I thought I had done with Professor Law's remarks. I cannot, however, refrain from one or two more quotations. Speaking of the effects of imagination on the dam, he says: "A bay mare that was worked, stabled and grazed with a black gelding, having white legs and face, straight back and long quarters, so that the feet seemed to be set at right angles on the legs, was covered by a bay horse. She produced a foal exactly like the gelding in color and shape, and especially that of the legs." Another, "beautifully formed trotting mare, covered by a horse of the same kind, was pastured during pregnancy in the next park to a mule, and the foal shows an unmistakably mulish aspect about the head, ears, thighs and gait." A "black polled Angus cow was served by a bull of the same breed, but the calf was black and white, and horned like an ox with which the cow was pastured." Out of another herd of "twenty polled Angus cows, served by a polled Angus bull, all had pure Angus calves, except one, which, threatened with barrenness, had been sent to starve on another farm, where she grazed with a yellow and white ox. The calf was yellow and white." In another case a man "had twelve white calves from his roan and brown Durham, after whitewashing his steading to ward off the pleuro-pneumonia in 1869. He never before had more than two in one year, and always sent them away."

The effect of the first sire on the succeeding progeny is also noticed. Mares bred to an ass and afterward to a horse, "had the qualities of the ass preserved in the second and third foal."

Breeding back is also noticed as one of the causes of diversity; but whether the bad qualities of the ancestors, without any of their good ones, are brought out in this way, he does not inform us. Under this head he speaks of a litter of pigs among which "the exact counterpart of the Berkshire used twenty-eight years before to give size and constitution to the herd," was produced.

But it is impossible in an article designed for a newspaper to speak of all the positions assumed by the lecturer. After cautioning us against all the difficulties that stand in our way—difficulties insurmountable in my opinion to the ordinary farmer, who has only the profits of a hard New England farm to depend upon, and who can't afford to build fences high enough to exclude all sight of the outside world, and even of the whitewash applied to stables, the lecturer comes to his

Summary of General Principles.

The second one of which is, "That in the maintenance and improvement of a breed, the truth that *like produces like*,—that the reproductive germ, ovum or spermatozoon will

stamp upon the animal developed from it the character of the parent organism, is the backbone of all success." Now it seems to me that the cook's directions for dressing a hare, first to catch him, would be very applicable here. First, get your breed that you wish to perpetuate, and then you are all right. He tells us further back that "the fundamental principle that *like produces like* is not an invariable rule; were it so, every breed would retain the same qualities throughout all time, and no improvement could be effected."

Now, it seems to me that the law that *like produces like*, is totally inapplicable in this matter. I can't conceive of any possibility of its being brought to bear upon it, for I conceive it to be utterly impossible to place any given number of animals in the same circumstances; and, consequently, there is no chance for the operation of the law.

But I must leave the Professor, and pass to some remarks of Mr. Goodman, of Lenox, Mass. He says, "this subject is one which, perhaps, no unprofessional man can treat well." In speaking of what he calls "cock-tailbulls," he says: "we have, in most of our societies, eliminated them, cleaned them out. But every year the question is brought up, and we have to fight it over again. But we are in hopes that this year the Board or the Legislature will fix it so that hereafter none of these 'cock-tail bulls' shall be brought out for service, or at any rate for the premium at our fairs." Think of that, brother farmers; he wants it fixed so that however good an animal you may have, you shall not only be debarred from offering it for a premium, but also from using it at all! Owing to ignorance very few farmers understand this matter of breeding. It is very difficult for one not "well grounded in science to arrive at a nice appreciation of those distinctions which learned men make, or to understand and carry away with him much information from a lecture like this, replete as it is with theories and facts." In this remark I perfectly agree with him.

The point I wish to make is, that breeders of blood stock have not as yet agreed upon what shall be considered pure blood. Some say that crossing to the fourth or sixth generation we get pure blood, while others say a much longer time is necessary. But they all agree that "Charthage must be destroyed;" in other words, that all other animals must be pushed aside at our Fairs to make room for these fancy animals. I would like to have some of these sticklers for pure blood tell us whether there is any difference in the composition of the blood that might be drawn from an animal fed on the short pastures of some part of Boxford and one of those pampered Ayrshires or Short-horns, any more than in that of the human race; for we have the authority of Holy Writ for saying that "God made of one blood all the nations to dwell on the face of the earth."

Now, if climate and food have made all the difference in the human family, why not in the brutes? If through a long course of years the inhabitants of a certain portion of our globe have had certain characteristics stamped upon them that fit them for the localities in which they are placed, why attempt to supplant them with a race totally unfit for the locality? As, for instance, to attempt to raise the fat and rubicund Englishman amid the eternal snows of Greenland.

I certainly would not object to the importation and breeding, by gentlemen of means, of these foreign cattle. Those men of wealth who can afford to sink hundreds or thousands of dollars yearly in the embellishment of their farms, are not to be blamed for wishing to have these sleek looking animals about their premises.

One word as to the value of these pure bloods as milkers. I am engaged in making milk for the market. Many of my cows are picked up from the hills and valleys of New Hampshire, Vermont and Maine, and yet I have sometimes compared notes with Dr. Loring's Ayrshires, and if I am not mistaken, I have generally been ahead of him in the amount of milk per cow.

One word as to those herd books. If I am not mistaken, any man can get an animal entered in them by paying one dollar. Now if a man would like to raise the price of an animal from \$25 to perhaps \$200 or \$300 or \$500, is there not a temptation to attempt it by the payment of one dollar? And yet it is laid down as good authority, if the animal can be found in the book, that it is pure. Now if it is a fact that the mass of farmers don't know what is for their interest; that the animals that have been bred on the soil for two hundred years are unfit for the farm, and ought to be swept out of the way by legislative enactment, and that pampered foreigners and their progeny alone are to be the recipients of public favor, then it seems to me that some standard of excellence should be agreed upon; more especially if, as asserted by Mr. Goodman, that we "can, by a proper selection, produce just such results as we desire." I say there should be some standard adopted, and a note made of all that fall short, as well as of those that attain to it, so that we may know what the chances are of obtaining animals of superior excellence from the high-bred and high-fed breeds.

Thus, brother farmers, I have endeavored to point out a few of the reasons why our native stock should not be pushed out of the way to make room for these interlopers. I know I have not done justice to the subject, according to my ideas of it, for it would take a volume to do so. I do not believe it was the intention of the founders of our agricultural societies that such a state of things should ever take place. I believe it was their intention to encourage true excellence wherever found.

And while I know that no intelligent farmer would, for one moment, object to these "pure bloods" receiving their due share of public favor, I do object,—and I feel that every practical farmer should protest against things being so manipulated as to favor exclusively the breeders of these fancy cattle, when their chief claim to favor rests upon that fact, and that alone too, that their names can be traced in the book of pedigree to some foreign importation.

J. L. HUBBARD.

Peabody, Mass., July 28, 1871.

REMARKS.—A written pedigree is, we suppose, required of all applicants for a herd-book record—a pedigree that traces the descent of the animal to be entered to some herd-book animal.

For the New England Farmer.

SUNAPEE LAKE.

Sunapee Lake is situated in the towns of Newbury, New London and Sunapee, N. H., and is about 32 miles northwest of Concord. It is a beautiful sheet of pure, clear water, 10 miles long and from 1 to 3 miles wide, and is more than 1000 miles above the level of the sea. It is on the height of land between the Connecticut and Merrimac rivers. It is the reservoir of numerous brooks and rivers flowing from the above named towns, and the source of Sugar River, a wild rapid stream, which flows through Sunapee, Newport, and Claremont, into the Connecticut River.

The extension of the Concord and Claremont Railroad, which is now building, passes along the western shore for two miles, and affords to the traveller one of the most pleasing prospects New Hampshire scenery. On one side are the clear sparkling waters of the lake, green pastures, fine farms and woodlands sloping back from its farther shore; on the other, the everlasting Sunapee Mountain, whose base comes to the very edge of the lake, and whose summit towers 1500 feet above. On the one side, nature appears in its wildest grandeur; on the other, it is softened by clear water, green fields of waving grain and grazing herds.

Near the lake is the summit, or the highest point of the railroad between Concord and Claremont, and consists of solid granite, through which a cut of 500 feet in length and 50 feet in depth had to be made. We witnessed, at the time of our visit, the largest blast through the whole progress of the work. There were six thirteen-foot holes charged with glycerine and all ignited at the instant by means of a galvanic battery. We had a fine view from a hill, fifty rods distant, and when the electric spark was applied it seemed as if the whole hill was rising up. The air was filled with huge fragments of rock; then came the deep rumbling crash, as if an earth-

quake had burst from its pent up prison in the side of the mountain. Thousands of tons of rock were loosened by this blast. Two stationary engines furnish the motive power for working the derricks and drilling. The debris is loaded on to cars and dumped from the grade some 150 rods each way.

Farm of Messrs. Johnson & Cogswell.

After partaking of a lunch on the shore of the lake, we turned our steps towards a farm some three miles farther on, situated high up the side of the mountain in Newbury. Messrs. Johnson & Cogswell, the owners, may well be called the modern pioneers of Merrimac County. They commenced here about ten years ago, to clear up a farm in the heart of a dense forest on the north side of Sunapee Mountain. By indomitable perseverance, and suffering many hardships, they have hewed out a home for themselves that they may well be proud of: They own 400 acres of land, and have cleared 150; the rest is a primeval forest of spruce, hemlock and hard wood. They have cleared one large field of rocks and stumps, making it suitable for the mower. Their pasture is the richest in the county. They have built a barn 70 by 40 feet, with a cellar under the whole. Their crops consist of four acres of potatoes,—and stouter ones I never saw,—three acres of excellent wheat, and twenty-five tons of early cut hay in the barn. The stock consists of six cows, and four large oxen for lumbering, and a few mutton sheep.

They have not spent much on their dwelling house as yet, but told me they had plans matured for a new and commodious house, to be 100 by 50 feet, and three stories high, with wing to match. They intend to fit up a first class summer boarding house. From the hill above the house is one of the loveliest prospects we have ever seen, embracing the whole of the lake, with numerous islands; New London village, about 8 miles away; Kearsarge to the right; old Ascutney and the Green Mountains at the left; and, in the far distance, the whole range of the Franconia and White Mountains; while close behind, almost within a stone's throw, are the Sunapees, with their dense, sombre spruces and hemlocks.

The farm is rich in all the elements of plant food, both mineral and vegetable, and we saw evidences about the premises which establish the fact that it will not deteriorate under the management of the present owners. The cattle hovel was well supplied with dry earth, and the cattle are all stabled nights through the year. The hogs are kept in the barn cellar, and a large quantity of manure is made. Mr. Johnson says his neighbors laugh at him for spending so much time bothering with manure, on his new rich farm, but he thinks the laugh will come out the other side of the month by-and-by.

We were invited into the house and partook

of some delicious raspberry shrub, which Mrs. Johnson knows how to make; also some maple syrup, the clearest, purest, and best flavored we ever saw or tasted. We asked Mr. Johnson the secret of making it. He said he used one of the patent evaporators; the rest of the secret is contained in a nutshell—he let *pure sap* run into one end of the evaporator and *pure syrup* run out at the other end. This is the whole secret. The syrup we tasted was just as it came from the evaporator, put into bottles while hot, and hermetically sealed. They have also put up 150 quart, and 36 two-quart cans of field strawberries, this summer. Probably a hundred bushels of strawberries could have been picked on the farm the past season.

Now, Messrs. Editors, I write this letter to show what can be done in New Hampshire by energetic, persevering young men. Messrs. Johnson & Cogswell commenced with little else than clear heads and willing hands, and their property has quadrupled within the past five years, and we predict that it will more than quadruple for the next five. They have millions of feet of lumber within two miles of the railroad now building, with a good saw-mill on the place. Thus they are bound to chop and saw themselves out a fortune. What need of going to the far west, when there are thousands of as good chances in the New England States waiting for young men who are willing to work out their own fortunes?

S. C. PATTEE.

Warner, N. H., Aug. 22, 1871.

PRESERVING THE FLAVOR OF BUTTER.—The German *Agriculturist* says that a great portion of the fine flavor of fresh butter is destroyed by the usual mode of washing, and he recommends a thorough kneading for the removal of the buttermilk, and a subsequent pressing in a linen cloth. Butter thus prepared, according to our authority, is preeminent for its sweetness of taste and flavor, qualities which are retained a long time. To improve manufactured butter we are advised by the same authority to work it thoroughly with fresh cold milk, and then to wash it in clear water; and it is said that even old rancid butter may be rendered palatable by washing it in water to which a few drops of a solution of chloride of lime have been added.—*Ag. Department Report.*

TALL HERDSGRASS.—Though the average crop of hay may be less this year than usual, it is evident that grass has not lost its ability to grow. We have received a parcel of heads of herdsgrass, from 6½ to 8 inches in length, cut from stalks 5 feet and 11 inches high, which grew on a field of new land in Coaticook, Canada East, owned by G. W. Kinney, Esq. The grass on the whole field came nearly to a level with a man's head.

STABLE VENTILATION.



RECENT look into some city stables has turned our thoughts to the subject of the above heading. How horses live over night, even, in such numbers as are crowded into some places, and closely confined in so impure an atmosphere, is certainly a matter of wonder.

There was a time, we suppose, when mankind very imperfectly understood the

nature of air, the manner in which it supports life, and the causes which destroy its vitality. But now that science has developed the facts which ought to instruct us in this matter, there is no reasonable excuse for a man to torture his animals by depriving them of a sufficient amount of the breath of life.

Air is essential to the existence of every living being. Breathing it greatly alters its properties. Breathing it over two or three times exhausts that portion of it called oxygen, and then the animal dies. A mouse enclosed in a jar so that no air could get in or out, seemed to feel no inconvenience for a little time; but as the oxygen diminished, he was obliged to inhale another property of the air, nitrogen, and he grew more and more oppressed, and soon died of suffocation. The horse would die under similar circumstances.

The most dreadful example on record of the destructive consequences of a want of atmospheric air exists in the horrid fate of 146 Englishmen who, in 1756, were imprisoned in a small room, only eighteen feet square, called the Black Hole of Calcutta. There were only two very small windows in the room, and as both were on the same side, ventilation was impossible. Soon after the door was closed thentien began to experience heat and intense thirst. In a short time many became delirious, and at the end of six hours ninety-six were relieved by death from their torments. In the morning only twenty-three were found alive, and of these only a few ultimately survived.

Some of the stables we have seen, are not Black Holes, but they are quite offensive ones, although ventilated in some measure. If the horse stalls are below the ground,—which is

frequently the case,—there are openings over the feed racks which permit the air to rise upward, passing the horse's nostrils or over his head, on its way. Where the stalls are above ground, there is sometimes a small hole cut through the boarding of the building, if a wooden one, or left in the work, if a brick one.

This is a very common arrangement, both in city and country, and is one of the worst, we think, to which the horse can be doomed. It is true that respiration may proceed and life exist for a time, in places where the air is impure to a considerable degree, yet as pure air is essential to the full enjoyment of health, every degree of impurity must be having an effect upon the animal, although it may not be perceived immediately.

Ventilation, therefore, as a means of preventing disease, is not only important to the comfort of the horse, but as a protection to our property. We paint our buildings to preserve the wood work. We house our machines to prevent rust from eating them away. We do both, because it is economical; we save our property by so doing. But we force our horses to breathe vitiated air, by standing in stables where our clothing becomes saturated with impure odors in a very short time.

Badly ventilated stalls are usually rather dark stalls. No animal loves the pure, clear light better than the horse. It is cruel to deprive him of what he likes so well, and what never does him harm. His stall, therefore, should not be so placed as to bring his head against the side of the stable; but if possible, where he can have a free and cheerful "look-out," and where pure air can reach him at all times.

It will be found greatly to the benefit of the horse if his feed-box is next to the barn floor instead of being against the side of the building. He can be more conveniently fed, his droppings will not be offensive in the floor, and he can always have light, and pure air, when his surroundings are kept in a cleanly condition. Then there is the great pleasure added, of always looking an old and faithful servant in the face when you approach him!

—A San Francisco dispatch says that 11,000 barrels of flour have just been shipped from that port for Hong Kong, that another similar shipment will soon follow, and that a sale of 3000 barrels of flour has just been made for Singapore.

A FIELD-DAY ON THE FARM OF DR. NICHOLS.

Hot weather—Gathering of Farmers on the shores of Lake Kenosha—Trustees of Essex Agricultural Society—New Hampshire farmers present—Objects of the gathering—Subjects discussed and opinions compared—Dinner and after-dinner talk—Examination of crops—Modes of culture and use of fertilizers explained—A ride through the city, and views of the surrounding country.

A Pleasant Gathering of Farmers.

Many times, in these columns, have we urged the importance of farmers coming together to find change of thought, make new friends, discuss topics relating to their business, and gain strength and wisdom by so doing.

Persons engaged in other avocations do these things, and find profit and encouragement in them. They have no more spare time than has the farmer, and they have less conveniences and facilities for social gatherings.

A few days ago, Dr. J. R. NICHOLS, of Haverhill, Mass., invited the Trustees of the Essex County Agricultural Society to visit him at his farm, which is about one mile from the city. A few other gentlemen were also invited, the whole number being about eighty. Some of the leading New Hampshire farmers were present from Exeter, Hampton, Epping and Hampton Falls. JOHN B. CLARK, Esq., Editor of the *Mirror and Farmer*, Manchester, was also present, and some of the Boston daily papers were represented.

The weather was hot; one of the hottest dog-days; but in the cool shade of the charming oaks on the banks of Kenosha Lake, and fanned by the fresh breeze that came to us after rippling the surface of the sparkling waters, we found the temperature just right for an out-door gathering.

The objects sought in coming together were to know each other more intimately, and to learn of our host something of his new modes of fertilizing and cultivating the soil. The crops of the farm were examined by many persons competent to judge of them, and pronounced good, even for a highly favorable season. The corn was stout and tall, the ears large, and in many instances two perfect ones upon a stalk, and promises a harvest of near one hundred bushels to the acre, besides a large crop of excellent fodder.

The potato crop was carefully examined,

and it was judged would yield three hundred bushels to the acre.

Standing in the midst of these crops, the inquiry was made,—“What was the condition of the land before the potatoes were put upon it?” The reply was: “Three years ago it was covered with young oaks. These were pulled out by the roots, the land thoroughly ploughed and pulverized, and last year planted with potatoes. Gypsum and ground bone were applied to the hill, and the crop was a large one. Last spring it was ploughed deeply again, pulverized finely, applied the same fertilizer, kept the weeds down, and here is the result. *They have had no stable manure whatever!* The potatoes were large, fair, and as good-looking as potatoes could well be. The reader ought to know, however, that the potato field was on the edge of a meadow of a rich black soil, and that it received the wash of a narrow strip above on its whole length. These advantages would not, we should judge, bring such a crop of themselves.

The corn crop was carefully examined. The soil planted was treated much as was that for potatoes. Numerous questions were put, all of which were replied to minutely by the Dr., stating the names of the fertilizers used, the quantity, and when applied.

The grass crop excited surprise. About twenty-three acres had been mown, and fifty tons, by measure, of as good hay as was ever stowed away, were upon the scaffolds and in the bays. It was bright, and as fragrant as a nosegay. We walked over the acres where this was cut, and found another crop which it was estimated would yield 1500 lbs. per acre, or about seventeen tons more! Some of the acres would give a ton, as the thick herdsgrass stood knee high!

The Dr. keeps five horses and some ten head of cows, and all the manure made in every way, is used upon the farm. But where it has been employed the fact was stated. On one piece, a high and dry knoll, an experiment has been going on for seven years. Not a shovelful of stable manure has been added. Last year we saw the crop growing upon it, and estimated it at fully a ton per acre, but did not inquire what it was this year. It is the aim of the Dr., and his advice to all is, to make all the manure possible, and use it on the farm. In most cases, this is not enough,—

and here is where chemical fertilizers can profitably come in. By their aid, lands long languishing may be brought into a state of fertility, and gradually all the cultivated fields and the grazing lands be brought into a profitable condition.

The Dinner and After-dinner Talk.

After a sumptuous dinner, the leading dish being a capital chowder, with fruits of the season, creams, ices, coffee and tea, DR. NICHOLS briefly explained his reasons for inviting his friends to meet him. They were *social* and *instructive*. He desired to learn of others, and in return to say something of his peculiar modes of cultivating the soil, and to show the growing crops to those present, in corroboration of the results of his practice. His remarks were received with demonstrations of approbation.

The Dr. then called upon Major BEN. PERLEY POORE, of West Newbury, who drew down "the Grove" by happy hits upon various practices. He dwelt mainly upon the progress and increased profits of scientific farming.

Upon being called upon, Gen. SUTTON, of Salem, spoke in high terms of the effect of gatherings like the present upon the minds of farmers, and thought them of more importance than all the premiums paid out at the shows.

MR. J. D. LYMAN, of Exeter, late Secretary of State in New Hampshire, being called on, said farmers now acknowledge the relations of science with the practical affairs of agriculture, and continued for some minutes on this theme in his usual earnest and attractive manner.

The Editor of the *Manchester Mirror and Farmer*, JOHN B. CLARKE, Esq., responding to a call, said he knew no man to whom the farmers of New England are looking with so much interest as to our host of to-day. The attention he has called to the use of chemical agents as fertilizers for crops is universal among our people, and they are impatiently waiting for more light upon the matter. We have some results of chemical fertilizers about us to-day of the most gratifying character.

HON. ALLEN W. DODGE, of Hamilton, spoke of "the hue-and-cry" against farming as being unprofitable. Farmers support all, he said, and with the aid of science will lead the nation on to an immense power and wealth.

MR. FAY, of Chelsea, and MR. WARREN ORDRWAY, of Bradford, made brief remarks, and then the party rode to a beautiful eminence on the farm, where they had a fine view of the city and surrounding country. From the farm they rode to the Station, where the party separated, all highly gratified with the events of the day.

On the following day we had the pleasure of returning to the farm, and of looking over the buildings and crops in a more quiet way. We found all things in scrupulous order; every department of the buildings sweet and clean; the yards and roads inviting to man and beast. In the fields, weeds were underlings, and the whole presented an air of thrift and order which was worthy of imitation and refreshing to see.

Among the gentlemen who enjoyed this festive occasion, there were two who are quite extensive landowners. Gen. SUTTON, of Salem, has a large farm in the ancient town of Ipswich, and some three hundred acres, we believe, within the limits of the city of Salem.

MR. PEIRCE, of the firm of Peirce & Bacon, Boston, has a farm at Ipswich, upon which he keeps one hundred head of stock, and is bringing it up to compete with the Garden of Eden as nearly as he can. He owns a very large extent of land in Texas, and now has 2,500 acres in corn, six hundred acres in cotton, and four hundred acres in sugar cane. He makes the town of Topsfield his home, and in his farm enterprises is endeavoring to ascertain what amount of crop an acre of land is capable of producing. This is just what New England farmers need; that men of financial, as well as agricultural skill, shall make such experiments on New England soils as have been made by such persons on the soils of Old England. Skill and means to test the productive power of our soils, the best way to manage them, and the kind of crops to which they are best adapted, are wanted.

In the cold graperies of Dr. NICHOLS, we found eight varieties of grapes, now in the sixth year of their growth, and presenting a most luxuriant appearance. They *have never had any stable manure*. Most farmers can have one if they choose, and at little cost or labor.

We agree with MR. CLARK's remark,—that we know of no man to whom the atten-

tion of farmers is so hopefully turned as to Dr. Nicolson. We trust that he will dole out the results of his experiments to us gradually, and in a light so clear that he who runs may read and understand.

CONVENTION OF AG'L COLLEGES.

Within a few years past institutions have been established in most of the States of this Union for the purpose of "teaching such branches of learning as are related to agriculture and the mechanic arts, without excluding other scientific and classical studies, and including military tactics." The details of the organization of these institutions were left to the different States. Massachusetts divided the fund appropriated to this purpose, between an institution in Amherst, known as the Agricultural College, and one in Boston known as the Institute of Technology. Maine established a single institution, called the State College of Agriculture and the Mechanic Arts. Vermont, New Hampshire and Connecticut, established industrial departments in colleges previously existing in those States. A similar diversity characterizes these institutions in other parts of the Union. Different individuals among the managers of these institutions have had different theories as to the kind of education needed by those for whom these schools were founded, and different ideas were entertained as to the means of accomplishing even those objects which all regarded as desirable. In fact, these several institutions have been commenced as experiments, and each one is naturally anxious to know wherein others have succeeded or failed.

Hence those interested in the management of these colleges met at Chicago, August 24, for the purpose of comparing results, and for devising some plan by which the experience and labors of each can be made available to all, and more useful to the industrial classes generally.

We have seen a report of only a part of the pro-

ceedings of the convention. The officers are as follows:—

President—Dr. J. M. Gregory, LL. D., Regent of the Illinois Industrial University.

Vice Presidents—Dr. M. Miles, Prof. of Agriculture in Michigan Agricultural College; Prof. D. C. Gibson, of Sheffield Scientific School, New Haven, Conn.; Rev. Joseph Denison, President Kansas Agricultural College.

Secretaries—Prof. A. N. Prentiss, of Cornell University; Prof. John Hamilton, Pennsylvania Agricultural College.

The question of experiments in crops, stock raising, &c., by the agricultural colleges was one of the first that was considered by the convention, and a great variety of opinions was found to exist on the subject. The labor question was also discussed. But we are unable this week to attempt even a brief synopsis of the proceedings.

ROOFS AND SHINGLES.

Twenty years' experience in building has taught us that extra shaved pine shingles, made of large timber, will outlast all other kinds. We stripped a roof covered with this kind, and on inquiry, learned it had been in use forty years, and there were no very bad leaks then. Extra shaved cedar shingles are next best. Shaved shingles are more durable than those of any other manufacture. Spruce, if the timber be large and the sap all taken off, will last fifteen or twenty years, but shingles made of small spruce or fir timber with sap on, such as are imposed upon the market, are comparatively worthless, especially the extras, and so are poplar, although much depends on the condition of the timber when it is cut. Some kinds of ash shingles last well, but they warp and crack badly. I have used hackmatack shingles, but never observed as to their durability. Concerning the best pitch of roof, my observation has been that the steeper the roof the longer it will last. The fact that shingles will last much longer on perpendicular walls than on any pitch of roof, is evidence in favor of steep roofs.—A. W. Clark, in *Maine Farmer*.



THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS,

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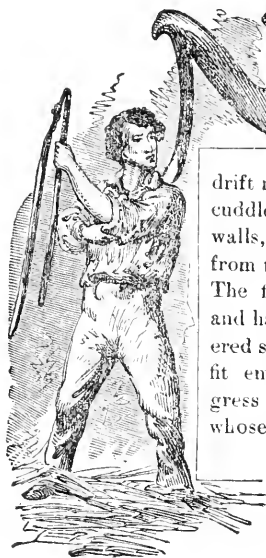
MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

NOVEMBER ASPECTS.

Oh, knew he but his happiness! of men
The happiest he, who far from public rage,
Deep in the vale, with a choice few retir'd,
Drinks the pure pleasure of the Rural Life.
Thomson's Seasons.

The Glooms of November.



NOVEMBER winds are chilly, and NOVEMBER skies are quite often dark and gloomy. Deadleaves drift in the breeze, and cuddle under the stone walls, as if to hide away from the merciless blast. The flowers have faded, and hang upon their withered stems in the garden, fit emblems of the progress and decay of man, whose days have been extended into old age. The air is no longer resonant with the songs of birds.

They have gone to distant lands and nilder skies, there to find the food they need, and to gain strength to come again to their breeding haunts, and enjoy another season of nuptial delights. Pinching frosts are on the brown herbage in the morning, and little pools in the highways are covered with a glassy surface.

The crow sits on the bare tree top, cawing to his family in the wood, and in the gloomy afternoon, tired geese up in cloud-regions, *honk* to the lagging train to drop into some far-seen lake for food and a night's rest. The domestic animals gather about the yards, impatiently waiting to be admitted to their accustomed byre. The afternoons are cloudy, dismal and short. Night comes quick, and shuts in the scene.

So, too many think and feel of November. Too many cherish the feeling, and give it new strength every year.

We would not say that this feeling is strange and unnatural. To the sensitive and observing mind, the general decay of vegetable matter all about us, the leafless trees, the bare fields, the absence of the birds and insect life, the cessation of a thousand pleasant sounds which animated summer life, is a change which will materially affect any reflecting mind.

All this, however, should not so disturb our feelings and views as to settle upon them a gloomy pall, and shut out the thousand pleasurable prospects and sensations which still remain. We must remember the sentiment of old Father Cotton, that,

If solid happiness we prize,
In our own breast the jewel lies,
Nor need we roam abroad.

When the "good time," so long anticipated, has come, no higher type of "peace on earth" may be found any where, than in

The well-regulated Farmer's Home.

Instead of the season bringing gloom and discontent to the mind, November clouds and storms, and decaying life, will afford such a contrast to the flush and energy of summer, as to give us a deep interest in all these changes and processes of Nature.

If the farmer compares his position with that of any other class, he will find sources of consolation and joy peculiarly his own. During the growth and the securing of his crops, there was constant labor, together with anxieties as to the results. But *now*, the harvests are completed, and enough is laid away in store for man and beast for many months to come.

In every age, this season has been attended with more rejoicing than any other. In these seasons were the feast days in Bible times, when they not only had devotional exercises, but their public thanksgivings called for expressions of joy, and acts of kindness and festivity. The Scriptures emphatically speak of the "joy of harvest."

With food and shelter and clothing, with fuel for fires, with the pleasant care of the domestic animals which are dependent upon him, and that regard for progressive knowledge which is incumbent upon the farmer, why should not his home become the abode of contentment and peace, at all seasons! He is not subject to high rents or frequent removals, as many mechanics are, but has a secure and comfortable home, conveniences in fuel, clothing and shelter, which thousands have never enjoyed; has the sweets of good society, the mental luxury of books, which introduce him to all the peoples of the earth.

To these may be added another charm, and that is the study of books which are devoted to his own business. This exercise will not only make *November* evenings instructive and delightful to himself, but will equally entertain the family around the social fire, and greatly *increase the profits of the farm*. We lose in many ways, because we do not understand the operation of laws about us, and which directly affect all our labors.

He who has not become interested in these laws has little more conception of their power and beautiful operations, than he could have of our gorgeous autumnal scenery from a mere description of it. He must see *that*, in all its infinite colors and lights and shades, in order

to have any appreciative sense of its beauties,—so he must study the natural laws under which he labors to gain a living, or he never will know many of the pure delights which ought to come to the cultivator of the soil.

No one can be long discontented, or gloomy, who reads the books which treat of the breeding and growth of our domestic animals. He will soon learn the wonderful progression which has quadrupled their size, and equally increased their productive powers for labor, for milk, butter and cheese; and in sheep, for a similar increase in flesh and in the production of wool.

He will learn that many of our most valuable vegetables were once unfit for human food—such as the potato and cabbage, for instance. The former being a wild plant in the woods of America, with a small, bitter bulb at its roots, which, for a long time, was considered as poisonous; and the cabbage was another wild plant growing on cliffs near the sea coast in England. Other vegetables, now considered indispensable on our tables, have come from plants once rejected by man and beast as unwholesome and worthless.

So it has been with many of our most highly-valued fruits,—the apple, pear, peach, and plum. The great perfection which they have reached has been gained by *study* and *experiment*. Strike these articles from our list of edibles, and it would be considered as an unspeakable calamity.

It admits of a question, too, whether any course of study in the schools could so thoroughly educate the farmer's family as the study of our agricultural literature around the family fireside. That study would include, in some degree, almost every branch of knowledge which the farmer needs. Something of science and the arts, to help him in his mechanical labors; something of geography, to acquaint him with the features of the earth, and of geology, to inform him of its changes; something of natural history, to enable him to discern between friend and foe among the living organisms by which he is surrounded; something of figures, to prepare him for the mercantile duties which will devolve upon him as a buyer and seller,—and something of chemistry, to show him some of the infinite varieties of changes which the matter with which he deals is constantly assuming, and the

wonderful powers which some of them possess.

Then the moral lessons are of infinite value. We look to mother earth as the agent through which we are to receive all that affords substance and comfort, and that dignifies and ennobles our lives. This seems to lead us nearer to God, whose paternal care controls the seasons and gives the earth its increase. Thus in dark and windy November evenings, we may study and contemplate the works of Him in whom we live, and move, and have our being, and gain new power by cultivating the *mind* as well as the soil.

FARM CARES FOR NOVEMBER.

November brings wide changes in all the rural scenes about us. The merciless frost has checked the growing plants, and in every direction the lifeless leaves are drooping and passing into decay. What a change from the green and vigorous condition which they presented but a few days ago!

In their dying hours, the leaves of the trees assume the most charming changes of light and shade, and in the sunlight present a scene of transcendent beauty.

Some of the hardy plants that are able to resist the power of frost are still arrayed in living green, and afford a pleasing contrast with the sere and yellow leaves of a large portion of others.

November is a trying month to the domestic animals. The change from a green, succulent food to a harsh, dry one, is very great. They ought now to be treated with especial care. It is their nature to take their food from the face of the earth, and not to receive it through the hands of man. They will resort to the pastures or the fields, therefore, just as long as they are allowed to do so. All day long they will search for a green bite in the hollows or under the walls, and work hard for that which does them little good.

To allow them to do so is poor economy for farmers. There is no profit in it. The frost-bitten grasses have little or no nutriment, and the close grazing weakens the plants and lays bare their roots, so that they are quite likely to be winter-killed.

Cattle exposed to the storms and chilling winds of November, and working hard all day to fill themselves with grasses which have passed into a decaying state, are liable to become dis-

ordered with colds or affections of the bowels, which sometimes last them for months afterwards. They lose appetite, their eyes are dull, the hair dry and frowzy, the milk small in quantity and poor in quality, and their calves when dropped, weak and puny. It is in every way, poor economy to allow the stock to range the fields in November.

The contrast, however, between the open fields and the close lean-to is a wide one. Cattle at first are impatient of the restraint, and should be indulged, two or three times each day, with liberty to stretch themselves in the yard, and lie down or stand up as they please. Bring them to their new condition of confinement gradually.

If taken from the pasture or fields at a proper time, and gradually fed with both dry and succulent food, they will retain appetite and continue in a thrifty condition through the winter.

HOW TO SAVE FUEL.—It is important to the health and comfort of the family that the whole house shall be kept, as near as is possible, in an even degree of warmth. If it can be afforded, every room in the house should be so; but as that cannot be the case in all instances, every care should be observed to prevent the entrance of wind from outside. If crevices are open around a room, as the room is warmed, the air from the outside rushes in with renewed force, and it becomes next to impossible to keep up a comfortable and equal degree of warmth.

In order to secure something of this equality, the first thing is to make all tight about the foundation of the house. This will prevent the cellar from freezing, and cold currents from rushing up through the floors. In doing this, use the branches of evergreen trees. Do not disfigure your house by piling up earth about the base boards and rotting them out; nor incur the cost of carting loads of sand, loam or gravel, and holding it against the house with boards and stakes, and then of carting all away again in the spring. But bring pine, hemlock, or spruce branches from the trees you are intending to cut down for fuel or timber, in the wood-lot, or the young evergreens which are monopolizing too much of the pasture land. Pack these closely about the underpinning, and lay some weight upon them so that they will remain in place. Your

part is then completed. December snows and winds will do the rest, by filling all the open places among the branches, so that wind and frost will not find their way where you do not want them.

In the spring, the branches may be easily put upon the bonfire heap in the garden, and their ashes give an abundant crop of cabbages or other vegetables. Will you try it?

There are many other things that may, and ought to be done in *November*, and if attended to, there will be little inclination to think of clouds or gloom, or be distracted by nightmare, or hypochondria.

Drain the wet land, if the ground is not too much frozen.

Collect *muck*, if the swamp will admit you.

Prune the trees, if they need it.

Haul off stones, if they are in the way.

Make all tight and snug about the buildings, if you would like to be comfortable when reading in the evening. Have a thoughtful care of the cattle, and the good old servants, the horses. They look to *you* for their meat in due season. Will you see that they have it?

Collect materials of every possible kind to be converted into manure.

See that the swine have dry lodgings to go to, and that the wind cannot come to them through cracks in the floor when they are lying down. Will they gain a pound per day lying upon a wet and ventilated bed?

If it storms too hard to attend to out door duties, go to the house cellar and put that in order, so as to save the women the job. Sweep the bottom, and spider webs from the walls and top. Sort over the potatoes and—ah! the *apples* are not there this year.

Clean out the wood-house and make ready the piles for winter use.

Do all these, and leave no other duties undone, and the women will love you, your children reverence you, and God will bless and bring you to an inheritance of glory and peace at last, of which the heart of man hath not yet conceived. And so ends our November homily.

—Geo. Kaler, of South China, brags in the *Maine Farmer* of a smart hen. In five months and three days, commencing the 25th of last March, she has hatched out and brought up three litters of chickens—thirty-nine in all—without a single addle egg, has laid thirty-three eggs, and is still doing her duty on the nest.

For the New England Farmer.

THE GARDEN IN NOVEMBER.

"The fading, many-colored woods,
Shade deep'ning over shade, the country round
Imbrown'd; a varied umbrage, dusk and dim,
Of every hue, from wan declining green
To sooty dark."

Many hard-working, money-making, practical men see little else in nature than that which may be turned into dollars and cents; but not so with all, even though they be farmers dependent upon their labor for their daily bread. The ever-changing seasons, as they revolve, afford food for thought and pleasing reflection; and of all seasons the fall of the year furnishes scenes of the most gorgeous and suggestive variety. These, instead of suggesting only gloomy and foreboding thought, should fill the mind with those of the most thankful, pleasing and glorious kind. And we believe that as intelligence and refinement spread among the laboring class, the beauties and suggestions of the ever-changing seasons are better enjoyed and better appreciated. Still, much of the sentiment and poetry of fervid writers fails to be realized by the every day workers either in town or country. Those who are dependent on the daily labor of their hands or heads, find less sentiment than reality in the business to which their lives are devoted. But the reader will ask what has all this to do with gardening? The main part of our active duties in the garden are brought to a close; the crops are garnered, seeds saved, and we are enjoying the fruits of our labors, and now is a proper time for moralizing, reflecting, and making resolves for future action. Nature is now going to rest, to recuperate and prepare for the future, and can we do less than take advantage of the same season for our own improvement?

We have often urged the utility of a good garden, and will now quote the words of an eminent physician, who says: "I consider the kitchen garden of very considerable importance, as pot-herbs, salads, and roots of various kinds, are useful in house-keeping. Having a plenty of them at hand, a family will not be so likely to run into the error, which is too common in this country, of eating flesh in too great a proportion for health. Farmers, as well as others, should have kitchen gardens; and they need not grudge the labor of tending them, which may be done at odd intervals of time, which would otherwise chance to be consumed in useless loitering."

We might quote other testimony in favor of a garden, but as our exhortation would hardly reach those who most need it, in an agricultural paper, we will merely urge at this time those who have heretofore had a small vegetable garden, to plan improvements on the past, to add some vegetables and fruits not heretofore cultivated, to strive to cultivate better, and to avoid the errors of the past.

With us most or all crops are gathered and

stored for winter use, or otherwise disposed of; but wherever any are left, no time should be lost in securing them before it is too late. Cabbage may be preserved, as suggested heretofore. Celery may be preserved after taking up and laying down, under sand, in boxes, in the cellar. Some may be left in the ground, where grown, by covering with litter, and over this place boards formed into a sort of roof; it is not freezing that injures celery, but the occasional thaws, the wet and rot they produce. Mild spells of weather will enable you to remove celery thus secured, when needed.

Cabbage and other plants wintered in cold frames should be allowed every advantage of free air during the continuance of mild weather, to inure them by degrees to bear the cold. The sash may be entirely removed a part of the day in mild weather, to be replaced again at night; sudden changes will require extra attention and care. Any needed draining of the ground may be done while the ground will admit; so also ploughing in manure or trenching; and in heavy soils leaving the surface rough and uneven to expose more fully to the action of the elements of winter. In some favored localities peas may be sown for an early spring crop, if they can be preserved from mice or other vermin; so also seeds of some other varieties, like the cabbage and onion. Lay down and protect the grape vines, cover the strawberry beds with evergreen boughs, or other suitable litter that will not afford a lurking and resting place for mice. Cover the ground about the trunks of the more tender and choice trees and shrubs with manure, litter, or soil, but be careful to provide for the exclusion of mice and other vermin. Clear up generally about the garden and premises, and do all that may be possibly accomplished towards forwarding another season's labor.

W. H. WHITE.

South Windsor, Conn., 1871.

INCREASE AND STRENGTHEN THE MANURE.

A prize essay of the Illinois Agricultural Society for 1870, by R. Giddings, details the cheapest and most practical plan of increasing the farm-manure pile and saving its elements from waste, and which should be adopted by every farmer. His plan is simply to save every particle of the animal excrements, liquid and solid, with all its fertilizing elements intact, free from waste by washing, evaporation, or fire-fang. To do this, he fills a stall, or large bin, in his stable, during dry weather, with pulverized clay, road scrapings or common soil. With this he covers the floor of each stall three inches deep, and then places the litter for the animals' bedding on it; by this means, all the urine will be absorbed, and its wealth of nitrogen saved; and such is the absorbing power of dried

earth, that one three-inch flooring will not be so thoroughly saturated in a long time as to require replacing. He says his experiment required but one large bin of pulverized earth to absorb the urine of ten or twelve cattle during the stable season; and that two men with a team filled the bin in one day. Dried clay was applied also to the pig-pen and hen-roost, with the same ammonia-saving results; and if applied to the privy or earth closet, which is now being adopted, a great manurial as well as sanitary result would follow. The inducements for the use of dry earth are:

1st—That it requires no apparatus or cash outlay.

2d—That the liquid manure of cattle is worth more than the solid, and is usually lost; but, under this practice all is retained.

3d—The dry earth retains within it all the value, of which usually one-third or one-half is lost by fermentation, leaching, or evaporation.

4th—It gives much larger bulk of manure, each load of which is of double the value of ordinary farm-yard manure.

5th—That one ton of saturated earth is of more value than the same weight of even fresh saved dung.

6th—That the aggregate amount of plant food thus saved from the stalls is fully double, and in much better condition for use.

His next experiment was the cheap manipulation of bones. To make his own bone material he got from a foundry at the cost of \$1.60, a 32-pound cast-iron sledge, by which, with the aid of a spring pole and an upright log set in the ground, he reduced bones to small pieces; then sifting out the finest, he crushed the coarsest pieces over again; these fine pieces he composted in layers with fresh horse-dung. After three weeks he forked over the pile and covered it with soil, and this was afterwards forked over until the bones were rotten and thoroughly mixed with the horse-dung and soil.

To save farm-yard manure from waste, and above all from fire-fang, Mr. Giddings uses both earth and water. He says "a covering of half an inch of soil will absorb every particle of escaping ammonia, but a thicker coating is desirable." A water-box on a one-horse cart is also used occasionally to stop a too active fermentation of the pile. There are other absorbents, rich in themselves, of plant food, which not only save but add both bulk and richness to the pile—muck, sawdust, coal ashes, &c. Go into your hen-house on a warm morning and you will be oppressed with the effluvia arising from their droppings; spread over them a hod of coal ashes, or a basket of saw-dust, and the air is sweetened as if by magic; and it will keep the hens in good health, besides increasing the manure, if followed up every few days.—*N. Y. Sun.*

EXTRACTS AND REPLIES.

YEAST GRAHAM BREAD.—HOW TO USE ASHES.—BORERS IN APPLE TREES.—MOSS ON APPLE TREES.—USE OF SALT ON THE SOIL.—MULCHING STRAWBERRIES.—ABOUT REFRIGERATORS.

Can you or any of your lady readers give, through the NEW ENGLAND FARMER, a good recipe for yeast Graham bread?

2. Will you please tell me the best way to use dry ashes, the best time to apply, and the quantity per acre?

3. Is there anything that can be put around young apple trees to prevent borers from injuring them?

4. What will prevent moss from growing on the trunks or bodies of young apple trees?

5. When is the best time to apply salt to the soil, and what quantity per acre? Would it be a good way to sow salt on the garden this fall, and plough it in? If so, how much per acre?

6. When is the right time to mulch strawberries? Should the plants be covered or should the mulch only be put around roots under the leaves?

I noticed in a back number of the FARMER, a correspondent making a refrigerator without filling the space between the boxes. Would it not be a better plan to fill the space? A SUBSCRIBER.

Sheldenville, Norfolk Co., Oct. 9, 1871.

REMARKS.—1. Yeast Graham bread. A notable housekeeper assures us that the following is perfect:—3 quarts Graham meal; 1 pint of wheat flour; 2 common cups molasses; 1½ cups of good yeast; a little salt; warm water enough to make a soft dough. Stir it together over night. The next morning pour it into pans to rise a short time, and bake in a moderate oven.

2. A good way to use dry wood ashes is to sow them upon the soil at the most convenient opportunity after they are collected. In the fall, as top-dressing; in the spring, on lands sowed with grain and seeded to grass. Another good way is to mix ashes with old manure, and strew a large handful of the mixture in the corn hills, and particularly in the potato hills. In the garden, scarcely anything can be better. It will have a wonderful influence on the fruits and vegetables there. We think a moderate quantity of ashes at one time, preferable to a large amount. If a hundred bushels were to be used, we should greatly prefer to spread it over four or five acres than apply it all to one acre.

3. We have never found anything placed around the stems of young apple trees, that would entirely prevent the entrance of borers. Many things have been suggested, but all have proved at least partially fruitless, so far as our observation goes. The best preventive is to keep the tree in a healthy and vigorous condition. But sometimes borers will attack them under such circumstances. When they do, examine the trees carefully. In the fall the lodgment of those hatched from eggs laid during the summer will be indicated by a little string or pile of fine excrements, and the young borer will be found in the sap-wood just under the bark, which may be removed by the point of a stout knife, and the insect destroyed. If the borer has entered the wood, which he will do the second year, take a pliable wire slightly hooked or broomed at

the end, and draw the intruders out of their holes, or crush them where they are. If borers are in the tree, their chips or droppings, may usually be seen on the ground near the stem or root of the tree. Washing the tree twice each year with strong soap suds, will improve its looks, promote its growth, and, perhaps, have a tendency to keep away the borer, especially if applied in July, when the beetle deposits her eggs, or about the time the larva hatches, say the last of July or fore part of August.

4. The care of the tree, suggested above, will keep off moss, scale lice, and other depredators. Very soon after a tree shows signs of weakness and decay, it will be attacked by insects or disease. It is so with our domestic animals. There seems to be a law of nature, always coming in, to help on the decay which has been commenced, and get the invalid out of sight as quickly as possible.

5. We are not aware that there is any particular time which is better than others for applying salt to the soil. The quantity used per acre, varies widely in different hands. We should recommend a moderate quantity, say from five to fifteen or twenty bushels per acre, and then as a top-dressing rather than to plough under. If mixed with other materials, it would be for the sake of its effects upon them, in correcting their acids or otherwise.

6. Mulch strawberries soon after the ground has frozen. There is danger of covering them too much. Scatter leaves, straw, hay or light evergreen branches over them, just so you cannot see the plants. If covered with straw or hay, throw a few branches upon it to keep the wind from blowing it off. There is no need of placing the straw under the leaves of the strawberry, as they will work their way through in the spring if not covered too deeply.

7. We have made no experiments with regard to refrigerators, and can give no information from personal knowledge in the matter. The space left between the inside and outside of the refrigerators in common use are filled with various articles, such as sawdust, powdered charcoal, &c., which seems to show that the space ought to be filled. On the other hand, when a house cellar is lined up, the space between the underpinning and the brick work inside, is left clear, because it is said that the air is a better non-conductor than anything else. Why should not the same reasoning apply to the refrigerator?

EXCELLENT BUTTER.

I am a constant reader of your valuable paper, in which I have seen much about gilt-edged butter. I take the liberty to send you a sample of mine for you to pass your opinion upon. This butter is made from grass-fed Jersey, Ayrshire and Devon grade cows, and contains no foreign substance except the English dairy salt, purchased from Edward Oakes & Co., 48 Long Wharf, Boston, which I prefer to any salt in the market. S. R.

Wilmington, Mass., Sept. 30, 1871.

REMARKS.—The sample of butter alluded to in the above note was handed to us by Mr. John Owen, of Wilmington, who in reply to questions

prompted by our curiosity and gratitude for so beautiful a present, admitted that the donor was his better half, and that to her was due the credit for its excellence and for the tasteful style in which it was put up, each pat being surmounted by a neat stamp of a pineapple or a swan. The color, the clean, sharp grain, and above all the flavor, were such as are seldom combined in butter—more is the pity. It needed but a taste to show how appropriately our friend had chosen her emblems for stamps—for surely the sweetness of the fabled song of the dying swan, and the exquisite aroma of the pineapple, were equalled in degree by the fine qualities of this crowning triumph of the dairy. But however skilful the dairy-woman, “gilt-edged butter” cannot be produced without the co-operation of the dairy-man, and such butter,—we will not say “faucy,” for this is the real—shows that Mr. Owen, though an “old salt,” has an aptitude for other callings.

But, seriously, we cannot refrain from again calling the attention of our readers to the profit which lies in improving the quality of the butter which comes to our market. Much of the vast amount which our dealers handle is only second rate, and still more of even a lower grade, while there is always an eager demand for a choice article, at a price enough higher to reward any extra pains in producing it. The difference in profit is best shown by comparing the figures of the past week:

Inferior and baker's, # lb	10¢ 14c
Common	14¢ 18c
Fair to good	23¢ 27c
Choice and extra	28¢ 34c.

With higher rates according to customers and quality. Is further comment necessary?

COAL ASHES.

Can any good use be made of coal ashes on a small farm? A READER.

Wellesley, Mass., 1871.

REMARKS.—Yes, it will make a good hard path. As a manure, however, coal ashes is not very powerful, though there is great difference in different lots, owing to the character of the coal of which they were made, and to the amount of wood ashes, &c., that may be mingled in the heap. Coal ashes on light sands which hold neither water nor manure is beneficial by occupying the cavities between the grains of sand, thus making the soil more retentive; and on stiff clay soils it is beneficial by preventing too great a degree of cohesion,—something like the man in the story, who blowed on his fingers because they were cold, and on his porridge because it was hot. Coal ashes may also be used as an absorbent in the privy and elsewhere. If you have the Monthly FARMER for last year, turn to page 211 and read an excellent article by Prof. S. W. Johnson on coal ashes.

A DOSE OF GARGET ROOT—OTHER TREATMENT.

Will you or some of your correspondents inform me what is the proper dose of garget root—(*Phytolacca decandria*)—and how administered to a

cow for the cure of garget? Is there a better remedy known than the above for the disease?

Addison County, Vt., Oct. 16, 1871. JONES.

REMARKS.—We never weighed or measured a dose of poke-root, but would describe the amount we use as a slip about as long as one's finger and half as thick, put into a potato and fed every other morning for several days.

A feed of half a pint of beans once or twice a day, has proved beneficial in some cases, as have a mess of tomatoes. A free use of warm water applied with a large rag or sponge, wet blankets, &c., is made by some. Mr. Allen, author of “American Cattle,” says he has had the most gratifying success in the use of luke warm water applied to the udder in an oil-cloth or India rubber bag, made to enclose the udder, flaring at the top, and held in place by straps or cords over the back. When the application is completed the udder should be slightly chafed with a dry cloth, and rubbed with a little lard, and the animal kept warm and comfortable.

If there is an inclination to constipation, he prefers an injection of about three pints of luke warm water, simple water, to the use of purgative medicines. If the first injection does not operate in an hour or two, it shows there is much internal heat, and another should be given.

See remarks on “Bloody Milk,” in FARMER of last week.

BEANS FOR BLOODY MILK.

Some time since I wrote you respecting a cow of Mr. Stoddard troubled with the red water. He tried your prescription, but did not perceive any change in the cow. Two weeks later we received another prescription from a subscriber. Mr. S. began to try that but while doing so the cow got to some beans and ate all that she wanted. Soon after there was a great alteration in her appearance, and she is now to all appearance as well as ever. She runs and plays, while before she could hardly get to the barn. Mr. S. thinks it was the beans that did the cure, but it might have been some of the other medicine. HENRY MILLER.

Westfield, Vt., Oct. 17, 1871.

REMARKS.—Beans are among the remedies often recommended for garget, and as red water is frequently a symptom or effect of the garget, we see no reason to doubt that they might be beneficial in cases of red water. Messrs. Whittemore & Belcher inform us that they often sell bone meal to farmers as a remedy for bloody water in cows, and that instances of its beneficial effects have frequently come to their knowledge.

WHY IS HAY EXCLUDED FROM PREMIUM LISTS?

Said Mr. Scammon, of Scarborough, Me., at a meeting of the Maine Board of Agriculture, “The base of all successful farming is the manure heap, and the base of the manure heap is the farm stock;” and, he might have added, the base of farm stock is grass. But in looking through the lists of premiums awarded by numerous agricultural societies, not once did we find a premium paid for hay. Premiums were paid for almost everything else, from a rag mat to a trotting horse. Why is it that hay is ruled out of the list? It is really the most

important of our farm crops. Its quality is varied by the manufacturer as much as butter varies in different dairies. The making of hay is subject to knowledge and skill of the hay maker, therefore a suitable article for competition for premiums. Will some one tell us why this universal neglect of hay? *Must Yard, N. H., 1871.* F. F. FISK.

FALL PRUNING OF APPLE TREES.

I am always so busy in June that I cannot find time to prune my trees at that time. What is your opinion of the expediency of trimming in October and November? T. S. F.

Felchville, Vt., Oct. 15, 1871.

REMARKS.—June is our favorite month for pruning; our next choice of time for that work is soon after the leaves fall in autumn. We are not sure that October is not about as favorable a time as June,—some farmers prefer it even.

COMMON FARMER'S SOAP FOR BONE DISEASE.

About one year ago, I think, the question, "What will cure the bone disease in cattle?" was asked in the *FARMER*; but as yet I have seen no answer. It is a disease quite common among cows, especially in a dry season, and the best cows in the herd are the ones usually troubled with it. The first symptom of the disease is an appetite for bones, sticks, or scraps of leather, &c., which the creature eats with a relish; afterwards, in time, lameness sets in, which seems to work in the muscles like rheumatism, slight at first, but gradually increasing until the creature is lame all over.

Cows have been cured the past season in this vicinity that were quite lame, by giving one-half pint of soap, such as every farmer makes, every other day, mixed with meal so that they will eat it. Some prefer to mix bone meal with the soap. I have cured a cow in my own herd this season, of the appetite for sticks and bones, by giving two doses of soap mixed with oatmeal. I hardly think it would cure a case of long standing, but if taken in season it will probably be beneficial.

Cobol, Vt., Oct., 1871. C. M. FISHER.

OLD AND TRUE.—Mr. Charles E. White, of Topsham, Maine, who showed the best grade Durham yearling heifer at the late fair of the Sagadahoc county agricultural society, told the reporter of the *Maine Farmer* that, "with good feed and good care, one can have good animals. Calves must be kept growing the first winter. With plenty of water, good hay and an occasional feed of roots, they will make large, handsome animals. Too many calves receive a stunt the first winter which they never get over afterwards." If winter and calves did not come every year, we might not need such frequent reminders of the importance of taking good care of the little ones of the flock.

LOUISIANA STATE FAIR.—Though we have devoted much time this fall to agricultural fairs, and considerable space in our columns to reports of them, a very strong desire to attend "just one more" has been excited by the receipt of the programme of the Fifth Grand Fair of Louisiana, with a very pleasant invitation to the exhibition, accompanied by kind greetings and the assurance of a cordial welcome, which are also extended to

the people of the North, East and West. The Fair commences at New Orleans, Nov. 18, and continues nine days. Over \$20,000 in premiums are offered for excellence in mechanical and agricultural products. In New England the weather is seldom suitable for an agricultural fair, in the latter part of November, but in sunny Louisiana we presume it is an enjoyable season,—perhaps more so than an earlier date. We wish for our friends there complete success, though we may not have the pleasure of mingling with them in their annual festival, and of seeing the results of Southern industry, and the products of Southern soil, which will be there exhibited. I. N. Marks, President; Luther Homes, Secretary and Treasurer.

GRAPES AND "WINE GROWING."

The editor of the Santa Clara Valley, California, *Agriculturist*, a monthly paper, commenced last May, says:—

"We were once inclined to favor the wine interests of this State, as tending to decrease the use of ardent spirits. But fifteen years of close study and observation have thoroughly convinced us that wine is an insidious enemy. Its victims are too often the thoughtless youth of both sexes, and it starts on the road to ruin many with a fair prospect, who might, but for its blight of moral obligations, become useful and happy men and women. It is the first round, not in the ladder to fame, but to the lower defile of degradation and disgrace. Regarding it thus, how can we but renounce it?"

The term *wine growing*, has become so common that one can seldom take up an agricultural paper without seeing it; as though wine making was a legitimate agricultural avocation! Should the farmer who raises barley be called a *lager beer grower*, or the one who sows rye a *whiskey grower*, there might be some consistency in this use of the term "wine growing." But wine is *not* an agricultural production. It does not exist in nature. It may be made from grapes and some other sorts of useful fruits; so may many other extracts and poisons.

The wine business may be as 'profitable' as the beer or whiskey business, but we have statistics showing that here, as well as elsewhere, "wine is a mocker"; that for every ten that flourish in the business of wine making, five hundred are out of pocket, and at least fifty are forever ruined.

—Governor Perham of Maine, is no dandy official, but a genuine farmer. On a recent tour of inspection to the Swedish settlement in Aroostook county, the Governor noticed some wheat which he thought was not properly secured. He at once put up several "stooks" after the Yankee manner, which was a new way to the Swedes. They will profit by the lesson.

AUTUMNAL SCENERY.



UTUMN in our country, puts on glorious hues not equalled in any other land.—There is no person so indifferent as not to notice and admire our autumnal scenery. Thousands gaze annually upon it with emotions of great delight, who would find little pleasure in

contemplating a painting, though it might come from the pencil of one of the best masters.

It is quite certain that "no person who, at this season, has observed, with an eye of taste, the accidental grouping of forms and tints in a forest of natural wood, can refuse his assent to the sentiment, that 'none can paint like Nature.' It is not merely in the harmony, the freshness, and the beauty of the coloring, that this is true; but in the contrasts, in the discrepancies, and even in the long breadths of tameness and uniformity which occasionally occur, as well as in the whole style of grouping, sometimes so wild, at other times so subdued, and again so full of unexpected grace and soft luxuriance. There is a peculiar charm in the very freedom and negligence of nature."

The common opinion, that the charming colorings of the woods in October are occasioned by frost, is undoubtedly a mistaken one. In proof of this, we see, every year, trees giving the beautiful tints of our Autumnal foliage in the months of July and August. This occurs several weeks before any frost has taken place, even in low grounds.

The change in the coloring takes place from the want of vital action in the leaves. We have long noticed that where these tints occur early in the season, before any frosts have appeared, they are upon trees which are in low ground, where water usually stands until quite late in the spring. The roots of trees standing in such places do not penetrate the earth, because they have a natural aversion to going

where cold water remains a large portion of the year. They spread their roots, therefore, over a considerable extent, quite near the surface, in search of the food they need. In this condition they flourish so long as the surface is moist; but when the summer droughts have deprived that surface of its moisture, these trees, although in low grounds, are among the first to show the effects of drought. The vital action which has kept them green and growing has been suspended. Sometimes we have seen a single branch glowing in the sunlight with unnumbered tints of beauty, while all the rest of the tree was "dressed in living green." This may afford a proof to some that each branch has its own particular root, to which it looks for its necessary food.

It would seem, then, that the coloring of the leaves does not take place until their vital action ceases,—whether the cause of that cessation be the *maturity* of the leaf, as supposed by some, or by old age, as is believed to be the case by others. In his exceedingly interesting and valuable work on the "Woody Plants of Massachusetts," Mr. Emerson says, "the sting of an insect, the gnawing of a worm at the pith, or the presence of minute, parasitic plants, often gives the premature colors of autumn to one or a few leaves." This corroborates our theory, we think, of suspended vital action.

Why, then, it may be asked, do not all leaves wither and tremble in the wind, an undistinguishable mass of rusty brown? In the work quoted above, it is said that "the sober browns and dark reds, those of the elms and several of the oaks, may be the gradual effects of continued cold. The higher colors seem to depend upon other causes. An unusually moist summer, which keeps the cuticle of the forest leaves thin, delicate, and translucent, is followed by an autumn of resplendent colors. A dry summer, by rendering the cuticle hard and thick, makes it opaque, and although the same bright colors may be formed within the substance of the leaf, they are not exhibited to the eye; the fall woods are tame; and the expectation of the rich variety of gaudy colors is disappointed."

In "The Seasons," Thomson says,—

"But see the fading, many-colored woods,
Shade deepening over shade, the country round
Imbrown'd; a crowded umbrage, dusk, and dun,
Of every hue, from wan declining green
To sooty dark."

His words do not indicate any great degree of brilliancy of tints in the foliage, but only a "wan declining green to sooty dark." It is probable that he had no adequate conception of the brilliancy and transcendent colorings in our autumnal forests. The superior beauty of our autumnal hues, compared with those of England, are said to be owing to the greater intensity of the sun's rays and the greater proportion of clear weather in America. Whatever these causes may be, it is difficult to determine. They are hidden, as yet, in the inscrutable operations of nature; though the suggestions of Mr. Sorby, an English scientific gentleman, to which we alluded a few weeks since, may be accepted as at least a plausible theory of the causes which produce these autumnal tints.

One thing, however, is certain. They are tokens of a boundless love to us, and evidences of a love of the beautiful in their Creator. When these brilliant colors appear, the year is waning, and the flush and beauty of all vegetable life is beginning to decay. The fruits of the earth have ripened; the field crops are ready for the harvest; the leaves fall to the earth and return to their native dust,—types of our own condition and mortality. But, like the last moments of the Christian, the leaves shed their brightest lustre in their dying hours, and leave with us charming remembrances of the last and most brilliant periods of their existence.

NEW PUBLICATIONS.

THE AMERICAN NATURALIST, a popular Illustrated Magazine of Natural History. Edited by A. S. Packard, Jr., and F. W. Putnam. E. S. Moore and A. Hyatt, Associate Editors, Salem, Mass. Peabody Institute of Science, 8vo. About 700 pages. \$4 a year; bound, \$5 a volume.

This Magazine has been published nearly five years. It is issued in monthly numbers and makes a yearly volume of about 700 pages. We have occasionally called attention to it as we have received the serial numbers; but having recently exchanged the loose pamphlets of the first four years for the bound volumes, we must again express our high estimation of the value of this work. It consists of brief articles on the various topics of natural history, which are written by scientific men for the common reader,—for unscientific people. In fact, "the leading object of the journal," says the editor himself, "shall be to amuse the reader, perhaps decoy him within the temple of Nature; and, if he be a willing student, instruct him in some of its mysteries." Hence the best skill of the book-

maker is employed—paper, type, illustrations and binding being of the best quality and most attractive appearance. Would that any word of ours might have the effect to "decoy" the boys and girls of our farm houses from the fictitious and supernatural stories which so many now read, to the higher, more interesting, and more practical "mysteries" of natural science, to which this magazine is devoted. These four volumes average twelve full-page engraved plates and 139 wood cuts, showing insects, birds, fishes, plants, &c., or illustrative of facts in geology, ancient monuments, and other subjects which are discussed in the text of these volumes.

Mr. Packard, the senior editor, is Lecturer on Entomology at the Massachusetts State Agricultural College, and Entomologist to the State Board of Agriculture, and the leading articles are written by authorities on the various subjects treated of. The London *Quarterly Journal of Science*, in speaking of the American Naturalist, says, "the leading men of science in America are among its contributors, and it is every way worthy of the great nation which it is intended to interest and instruct."

An interesting feature of the work is the department of "Natural History Miscellany," in which the editors briefly but clearly set forth any new discoveries or facts in natural history, and answer pertinent questions from correspondents. Illustrations are freely used where necessary to make the description intelligible.

As the high cost of this work, soon to enter on its sixth volume, may render it inaccessible to many for whose benefit it is published, we would call the attention of library committees, many of whom are at this season making up lists of books for purchase, to these four volumes of the American Naturalist and Illustrated Magazine of Natural History.

AN ADDRESS before the Students of the Pardee Scientific Department in Lafayette College. By Asahel Welch, C. E., delivered at the opening of the College year, Aug. 31, 1871. Lambertville, N. J. Hazen & Roberts, 1871.

This is not an essay or an oration, but an argument for the means and the necessity of a better education of engineers, based on the experience of a long life devoted to the profession, and on the prospective demands of the country for engineering skill. Its suggestions are worthy the most careful consideration by every one looking to engineering as a profession.

The pamphlet, singularly enough, furnishes no clew to the location of "Lafayette College," while the imprint is calculated to mislead, as the college is in Easton, Penn. The Scientific Department was founded by a gift of \$400,000 by Mr. Pardee, who was associated with Mr. Welch while both were young engineers. Both the Department and the Address are indications of the extent of the "new departure" from the old theory that "the only pursuits in civil life suitable for educated men were medicine, law, theology and education."

For the New England Farmer.

FIRE IN THE WOODS.

Twice, very recently, we hear of very destructive fires in the great forest of the West. In both cases the damage, estimated pecuniarily, is stated at a very high figure. It is safe to say that this kind of injury is always understated. The loss is not only for the present time, but still more for the future, and its amount cannot easily be calculated. The effect of a forest on climate cannot be estimated; the pecuniary value, only very imperfectly.

This manifold loss ought to be prevented. Especially ought it to be in the Northern and Eastern States. We cannot afford to lose our forests. It takes many years to restore them. We ought, at once, to take measures to prevent the recurrence of these losses.

Everywhere in New England, the forests are shamefully neglected. Everywhere they need care. Whoever will look into a forest, will find that nearly every tree needs to be cared for. The old, dead branches, near the ground, are injuring the growth and the value of the whole tree. There are many white pines, for example, which, if properly managed, will become valuable timber trees, but which, if neglected, will be of very little value. Every timber-man knows that a dead branch left near the base of a tree becomes a knot, which almost destroys the value of the tree as lumber. In every forest therefore, all the dead and dying limbs should be carefully cut off. These limbs are always of value as fire-wood, especially if cut off as soon as they begin to die.

Then, in many places, the trees are too close. The earth cannot furnish sufficient nourishment to give them a profitably rapid growth. Wherever they are too thick, some of them, the poorest, crookedest, and most unsightly, should be cut down to the ground. Everywhere they are now valuable as fuel. The same is true of all evergreens. Wherever they have grown up naturally, they are usually too thick. One half would be better than the whole. The same is true in regard to many of the hard-wood trees; not so strikingly true, however, as in regard to evergreens.

If all these superfluous trees and old decaying branches were removed, indeed, if only the dead or dying branches were taken away, the danger from fire would be very much diminished; in many forests, entirely guarded against.

G. B. E.

MORE PERCHERONS.

A correspondent of the *Turf, Field and Farm* writes that he has lately examined in New York, at the stable of Robert Stoddard, Greenwich St., five fine stallions, imported from France by Messrs. M. D. & E. C. Covell, of Delaware, Delaware County, Ohio, at a cost of nearly \$4,000 per head. They are of the Percheron breed, and weigh, on an average,

1,800 pounds to the horse, and they display a great development of bone and muscle, and from their appearance in the street they show you a very lively and easy gait, and look tough and hardy, and are a breed well adapted to this country. I should prefer this breed of horses to any other imported from Europe on account of their feet, which is one of the most essential points with us. And this is one of the worst features of European draught horses,—they have very poor feet, and cannot stand our pavements but a very few months at the furthest, on account of their feet giving out. But this is not the case with the Percheron horse; I think these have as fine a set of feet as I ever saw under a horse, and I think that the above gentlemen could not have selected a better breed of horses in Europe, so well adapted to this country, if they had sought to do so. I wish them a hearty success in introducing this valuable stock into America, and I think that the many friends of the equine race will join with me and say they have done great credit to themselves, and fulfilled the demand of the American people in draught horses. Friend Stoddard expects another stable of studs in a few days, from Scotland, which he says will be fine, and I have no reason to doubt his word. He generally means what he says, and is a great lover of good horses.

HOW MONEY WAS MADE BY FARMING.

A correspondent of the *Canada Farmer* details a conversation he had with a man from Devonshire County, England, who was apprenticed when a boy to a farmer there by a parish. On landing in Canada he had half a sovereign left, a wife and one child. He soon found work and better pay than in England where he could earn only fourteen pence a day. He worked for wages six years, when having saved "a bit of money," he hired a farm. We quote from the conversation:—

"Master had a farm that he let. He could not get any one to keep it more than one or two years, and they generally made a poor mouth at the rent, as the farm was so bad; and well it might be bad, for they sold everything off it, and never fed even the hay or straw; it was very foul, too, with weeds. At last no one would take it, and I told master that the reason no one could do well was because they did not know how to farm. I knew this from my experience in England, where we used to farm well and raise lots of stock on our turnips, and get plenty of manure. Besides, we always used there with our turnips guano and bone dust, and were sure of a good crop. So master let me the place at rather more than three dollars per acre, which is too much rent; but I was glad to get it any way. I got

a team of horses, and there were enough buildings on the place to make a shift with, and master promised to put up more if I paid my rent and did the land justice; so we strapped to work; we got a little stock about us, and I worked the land as well as I could; but for the first three years I had to work out with my horses to pay the rent."

"How long did it take you to get the land that was out of condition into a good state; I suppose you had no manure?"

"No, I had none; it took three years. I fallowed it, ploughed in green stuff as much as I could; I soon got some manure together and raised turnips, for I could have done nothing without them. I manure for the turnips in the fall. As soon as I got turnips I got stock, and fatted them, and sold them and made manure. Then the land began to get better, and I raised capital crops of barley, then clover, and finally I got to raise some tidy wheat. I had great trouble though to struggle on with my small means; but I have managed to get through my trouble, and I now get good crops on all the land except one piece, which is very light and poor. That piece, however, raises pretty good crops sometimes, and is getting better."

I then asked him had he ever ploughed in any crop that had a particularly beneficial influence on the land.

"I planted about three-and-a-half acres of corn, and with the help of ashes and plaster and manure to each hill, got a pretty good crop. I cultivated it, and kept it clean, and harvested the ears in the usual way; then I turned in the stock for a few days, and let them eat what they would; they did well on it. As soon as they had what they wanted, I dragged the stalks all down one way, the way I wanted to plough; then ploughed lengthwise and ploughed them in. Next spring I sowed the land to barley, and had a good crop, which I seeded down with clover; and I never saw such a crop of clover as I got off that field. I could never have supposed that corn stalks would have done so much good as they did. You know corn stalks are very sweet, and I think there is a deal of good in them."

In reply to questions as to how he fed his corn and peas, he said he gave his horses and pigs only what they eat clean and digest thoroughly,—using his corn mostly before it became so hard that stock could not chew it readily, and boiled all his peas.

This man had been on the rented farm eight years and with what he had previously saved was about to pay fourteen hundred dollars, cash down, for a farm of his own.

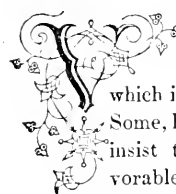
HOW I KILLED CANADA THISTLES.

In our land thistles do not go deeply into the sub-soil; it is level, rather wet land, and the sub-soil does not seem inviting to them. Often in ploughing I have chanced to run the plough just over or under a long line of this-

tle roots, sometimes exceeding ten feet in length. On careful examination I found the roots to strike upward or sideways, never downwards, or rarely so. I also found by transplanting some of these roots, and entirely removing them from their original bed, that numbers died and became rotten, especially when severed from the parent stem; whereas if allowed to be simply turned over by the plough, and *not removed*, but severed from the parent stem, they always thrive splendidly and increased wonderfully, especially after fall ploughing. I therefore abandoned ploughing in the fall altogether, as being worse than useless where thistles existed and summer fallow was intended the following spring; and by leaving the ploughing until about the fore part of June, or even later, the thistles had obtained complete mastery and a most rank growth, many of them showing for flower, and all several feet high. I now went at them with a vengeance, my strength increasing as their power of resistance increased. They had fulfilled their mission, or nearly so, and were in flower and bearing seed, and so far were decreasing in vitality or power of recuperation. The land was rather hard and turned up rough, and one day's ploughing in hot dry weather in June destroyed millions. Some, however, lived on, but the ploughing (without harrowing) totally cleared a field of twenty seven acres. I was then quite satisfied that to destroy Canada thistles you must not plough in the fall or early spring, but wait until the thistles were in bloom, and then ploughing as roughly as possible, and never harrowing until after the second ploughing, thus keeping the land as rough as possible, to admit of the greatest quantity of surface exposure to the sun and dry wind. This course completely eradicated the thistles in that field. Afterwards I grew barley, the year following sowed wheat after the fallow in which I killed the thistles, and to this day that field is clear of these pests.—*Cor. Canada Farmer.*

WESTERN FARMS NOT EXHAUSTED.—The editor of the *Rochester Rural Home* gives a description of the farm of H. H. Olmstead of Leroy, in Genesee County, N. Y. The farm contains 250 acres in the highest state of cultivation, and so far from being "run down" by seventy years cropping, it will give to-day, we believe, as good returns for seed and labor as it did the day that the removal of the primitive forest exposed the virgin soil to the sun. The oat crop just harvested, was one of the heaviest we ever saw. We spent an hour in a ten-acre field of Early Rose potatoes, which were then being dug with a Marcellus potato digger, the first successful operation of a potato digger we had ever witnessed. The yield by actual, correct measurement, was 244 bushels to the acre.

TRANSPLANTING TREES IN THE FALL.



ARIOUS opinions are still held by different persons as to the time of year in which it is best to transplant trees. Some, having large experience too, insist that Autumn is the most favorable time, and others, possessing equal skill, perhaps, hold to the time-honored custom of transplanting in the spring.

The observance of a common practice may indicate what the popular opinion is, but does not prove that the practice is a correct one. If a decided opinion is stated why one season of the year is better than another for doing a certain thing, then it would seem that some sound and plain reason should be given to sustain that opinion.

We have found it convenient to transplant fruit and forest trees at various seasons of the year. Quite often in April and May the work has been necessary. In one instance, an apple tree was to be removed because in the way, but it was in full leaf. In another the apple tree was about 10 inches in circumference, had a large, vigorous top, and was in leaf and blossom. Both trees were removed, however, and grew finely; the one removed when in blossom produced a fair crop of fruit the third year from the time of removing it.

When we came to the place where we now reside, there were no trees upon it, either for fruit or shade, with the exception of a dozen or two of old apple trees, which were fit neither for the one nor the other. The house stood exposed to the fierce summer suns and winter winds. To plant young trees to shade the house was a process which we could scarcely think of waiting for, and in order to secure the blessing at an earlier day, we selected two elms, one about 8 inches in diameter, the other about 5, each having large and beautiful tops. In November these were dug about and underneath, with the greatest care. When a leading root was found, it was followed, taking away the earth with small picks, improvised for the purpose. The roots laid bare were immediately coiled up and covered with old woollen clothing or horse blankets. In this way every root was detached from the surrounding soil, until the whole remained free

and clear. The tree then stood in its original condition, with a ball of earth about its roots six feet in diameter, two feet thick, and estimated to weigh, with the tree, about four tons. The ball rested on pieces of timber, on every side.

In this condition the ball froze about as hard as a rock, and was removed in January to the hole prepared for it and set when the thermometer stood at *nine degrees below zero!*

In digging about the tree provision had been made for sliding a stout ox-sled under the ball, by canting the tree over with pulleys. When this was done, six pairs of oxen found it as much as they could well do to haul the load one-fourth of a mile into place. The team passed through the hole, pausing when the tree was over its centre, which was forced from the sled by long and stout levers upon a bed of rich garden soil which had been stored in the barn cellar for the purpose. This tree was set in January, 1848. It was then about eight inches in diameter, and is now about twenty-four inches, with a broad and beautiful top.

If we transplant apple trees, we expect every tree to live, be the number large or small; and our expectations have rarely been disappointed, though we have set about as many in the fall as in the spring. The time of transplanting has been a matter of convenience rather than as selecting it as the best time for the trees.

Our decided opinion is, that all things considered, the fall is the best time to transplant deciduous trees, doing it immediately after the leaves have fallen. Why?

1. For this important reason: trees are fed—what they extract from the soil—by the small spongioles, or fibres, that spring from the larger roots. In removing a tree, it is next to impossible not to injure many of these delicate fibres; and as these are injured, so is power lost to continue growth. Therefore, the more time the tree can have to substitute new fibres for those which have been destroyed, the more certainty there will be that the tree will live.

If it is set in the spring the period soon arrives when leaves and blossoms are put forth, and the tree requires much moisture which cannot be supplied, because its feeders have been taken away, and there has not been time to supply new ones.

On the other hand, if the tree is set in the fall, it immediately goes to work, and continues to work, unless the ground is frozen about the roots, all through the fall, winter and spring, so that if all things are prosperous, new feeders have been supplied, and leaves, blossoms and continued growth will be produced. This we consider *the* great advantage of transplanting in the autumn.

2. In October, the demands upon the time of the farmer are not usually so pressing as they are in April and May.

If the tree to be set is large, it will be well to shorten in some of the branches, and thin out others in its centre. The soil should be pressed compactly over the roots and raised a little about the stem. If the tree is large, and has a top that will resist the wind, stones of considerable weight ought to be laid on the surface over the roots; otherwise, the wind will rock the tree and prevent the fibres from attaching themselves to the soil.

SLAUGHTERING HOGS.

An experiment in killing a ferocious hog some years ago, led us to consider the modes adopted for taking the life of the poor beasts in preparation for dressing them. The animal was purchased from a drove, was one of the long-legged and long-snouted kind, probably born in the woods, and as long as kept in the drove, was, in some degree, manageable; but when separated, about as ferocious as a tiger.

No amount of good feeding and coaxing seemed to mollify his wild nature, for he was always ready to dash at any person who was indiscreet enough to enter his domain.

By dint of corn meal, boiled sweet apples, and sundry gatherings from the kitchen, the beast grew up so as to weigh about 300 pounds. Owing him a spite for his bad behavior, and believing "discretion a better part than valor," we concluded not to enter his domicile, knife in hand, but to allure him by some dainty morsels up to his trough and then plant a pistol ball between his ears and see what the effect would be. It was excellent. All his former rashness in a moment was gone. He lay before us instantly "as dead as a mallet." There was no racing and frightening, no squealing, nor deadly thrust of the knife into the poor beast's throat. There was evidently

no pain felt, as no limb moved or muscle quivered.

Now has come the hog-butchering season, and the country round will resound with the screams of dying hogs, making the women faint, and the children in the family, with their fingers in their ears, run into the cellar, or into the depths of some closet, to get away from sounds which they will never forget though they may live to be old people.

It is an age of liberality; let it, also, be an age of humanity. If it be a crime, punishable by law, to starve or overwork a poor horse, let it also be a crime to put a creature to needless pain, which we have sheltered and fed and constantly cared for during a twelvemonth.

We have given several old horses their quietus with a gun, and so sudden and completely were all the powers paralyzed, that there was not the slightest evidence that any pain was experienced. They fell slowly forward, without noise or struggle. So it was with the hog.

Will not the reader, then, see to it that no animal of his shall be hunted down, caught and bound, and then die under the torture of the knife, this year.

A pistol will be found most convenient, but if a gun is used it should be with a small charge of powder, and a plug of hard wood three-fourths of an inch long and half as thick through will answer as well as a ball. In taking this course the head is not disfigured so as to be noticeable, and in every respect it is preferable to the old inhuman mode of killing a hog.

Will the "Society for the Prevention of Cruelty to Animals," notice this and "govern themselves accordingly?"

ROOTS IN THE HOUSE CELLAR.

Persons exposed to atmosphere tainted by decaying vegetables are generally supposed to be in more danger than if exposed to the odors of decaying animal matter.

A large collection of weeds, pulled from the fields and exposed during a damp and hot season, give off a sickening odor that is intolerable.

Sink spouts that empty themselves into a rank growth of weeds at the back door, where some portion of the weeds are constantly decaying, are supposed to give rise to some of the most virulent forms of fever. In some

cases nearly every member of a family has been prostrated with typhus fever in its worst form, where the cause has been supposed to arise from such pollution about the house.

So, decaying vegetables in the cellar,—turnips, cabbages, &c., may prove like “death in the pot.” Their odor sometimes pervades the whole house, and is as disagreeable as it is pervading.

Our caution to all is, if vegetables *must* be in the cellar, to keep them in as low a temperature as possible and prevent freezing. Then give the cellar all the ventilation that can be had, and as frequently as the air can be safely admitted. At the earliest moment in the spring remove all vegetable matter, and cleanse the cellar as scrupulously as the good wife does her pantry.

Wherever there is a barn cellar, the cost would not be large to prepare room in one corner of it purposely for roots. This would probably be the cheapest course in the end.

FARM IMPROVEMENT IN MASSACHUSETTS.

The New Bedford *Standard* gives an interesting account of the improvements made by Mr. Abner H. Davis, of New York, on a farm in Dartmouth, about two miles from New Bedford, containing seventy-four acres, of which fifteen are wood land.

The estate has been in the hands of the present owner a little more than three years. An inference as to the character of the land and the extent of the improvements made, may be drawn from the fact that carts, wagons, stone drags, derricks, &c., to the value of \$4000, have been constructed especially for this farm, and that the number of men employed last year averaged over twenty, at one time running up to seventy-five; and this year the average number has been about fifteen,—the labor of digging rocks having been mostly accomplished in 1870. In fact, the writer says, one of the rockiest tracts in Dartmouth has been transformed into a beautiful farm, which promises to repay abundantly the labor and expense incurred in improvements.

Large tracts have been cleared of rocks and underdrained, by disposing of loose stones below ground, in trenches six feet wide, and many of them five feet deep. These being covered with soil, the rocks are out of the way and perfect drainage secured, at the same time without loss of land in open ditches. But this does not get rid of all the rocks, large quantities being disposed of in heavy substantial walls.

A brook meadow of ten acres has been cleared, and the brook walled on each side up to grade, and a walled pond is to be constructed forty feet in di-

ameter. Another rocky swamp of ten acres covered with wood, has been cleared, underdrained and will be ready for planting next spring.

The soil of the farm is very strong. Twenty-three rods of land, in one of the lots which has been for many years under cultivation, yielded this year ninety bushels of potatoes, very handsome and smooth ones, of the Early Rose and Early Goodrich varieties. No manure is used except that coming from the barn.

On one tract of three acres of reclaimed land which bore little besides rushes, Mr. Davis has raised this year 100 tons of green corn fodder, from Southern corn in drills three and a half feet apart averaging eight and a half feet high. Other portions are planted with corn in hills, beets and turnips, which grew finely and very large.

The crop of pears this year is large, on about a hundred trees, but Mr. Davis says it is nothing to what it was last year. Apples are very slim this year. A plot has been appropriated to blackberries, and the bushes are looking finely.

As to buildings, a very fine large barn with tool house, piggery, carriage house, hen house, &c., with all the modern improvements, have also been built.

The farm improvements have been made under the direction of John S. Davis, a brother of the owner.

CORN FODDER PER ACRE.

Some one having asked in the *Maine Farmer*, “Can any one tell, by his own experience, how much corn fodder can be raised per acre?” Mr. H. S. Trevett, of Trenton, says that he carefully weighed the growth on a patch 56x26 feet, and found it 1432 lbs., equal to 34 4-5 tons per acre. The corn was planted in drills two feet apart, fifteen kernels to the foot. Time from planting to cutting 62 days.

Isaac Burnham, of Bluehill, weighed the corn on one square rod, and found it to equal 22 tons and 192 lbs., per acre. Planted on gravelly loam in drills 18 inches apart.

Mr. Z. A. Gilbert, by a like process, found the yield to equal 34 tons and 1229 pounds per acre. He planted half an acre. The land was a good soil moist but deep, was worked deep, and thoroughly pulverized. Eight common ox cart loads of manure was distributed in drills.

Mr. Gilbert says, The quantity cut and weighed was carefully bound, well dried out doors, and then stood up against the west gable window of a large barn, and there remained till January. It then appeared to be well dried, was bright and fragrant. It was then weighed and the amount of dry fodder to the acre was found to be 12 tons, 1280 lbs. The shrinkage was something over 60 per cent. I should have remarked that the corn was not cut and weighed in its most succulent or greenest state, but was allowed to stand till it had arrived at a greater state of maturity, the spindles having made their appearance in the greater part of the stalks.

A considerable quantity of the crop was cured and housed for winter use. The cattle ate it with a relish. Corn fodder cut green and well cured bright and sweet, is considered by feeders to be

worth nearly or quite as much per ton as the average of hay. Last winter hay was worth at the barn twenty dollars per ton. Allowing my corn fodder to have been worth twelve dollars, and the value would have been over a hundred and fifty dollars to the acre. I have no doubt the half acre of corn saved me more than seventy-five dollars' worth of hay. My faith in the value of the crop is so strong that I have another half acre this year of nearly as good growth as that of last year, from which am now feeding.

Curing.

I cut it with common corn cutter, throwing it in bunches the right size for a bundle, and when well wilted bind it up. I then stand the bundles by the side of the fence, or anywhere so that the air will draw through them. In good weather they will dry very fast. On the appearance of rain, put in barn, and stand the bundles in an upright position around on the hay loft, against the walls, against the gables, against the roof, the beams or against poles laid from beam to beam; around the floors, the empty stalls; into the sheds and out-buildings—anywhere that a bundle will stand in an upright position. No matter if only wilted when taken in, it will dry if kept upright. It is almost impossible to dry sufficiently to mow away or even to lay down if only to the depth of one bundle.

THE WADSWORTHS OF NEW YORK.

Some of our earliest recollections are of neighboring farmers packing up their goods and emigrating to the "Genesee Country,"—the "Far West" of our boyhood. Associated with reports from that distant country was frequent mention of land agents by the name of Wadsworth. These recollections were revived by the accounts which were published of Gen. James S. Wadsworth, who left his great property to defend the government of his country, and fell in the first battle of the Wilderness.

Hence we have read with interest a notice of the "Wadsworth Estates" recently published in the Rochester *Rural Home*, and think some of our older readers will thank us for a brief abstract of the article alluded to.

Eighty-one years ago last June, James and William Wadsworth, then young men, who were entrusted with agencies for the sale of large tracts of wild land, arrived in the then wilderness of the Genesee country, after a journey of several weeks, from their home in Connecticut. William died a bachelor in 1833. They were intelligent, cultivated men, and with a wise forethought, gave tone and impulse to the style of husbandry ever since popular in that section, by introducing improved varieties of horses, sheep and swine. Much of the beauty and park-like scenery of the valley is due to the fine taste and esthetic judgment of James, the younger brother, whose plans of improvement were broad, comprehensive and thoroughly practical.

Gen. James S., the son of James, succeeded to the chief supervision of the estates some time before the death of his uncle and father. He left three sons, Charles F., Craig W., and James W., each of whom are still large land owners.

The estates of W. W. Wadsworth, one-fourth of the whole, are managed by agents, and are situated in what are now the counties of Livingston, Monroe, Genesee, Erie, Orleans and Niagara. These farms are let yearly, but so satisfactory are the terms to tenants that most of them have occupied the farms for a long term of years. The lease made out each year under the advice of the farm, or out-door agent, specifies how much and what lots shall be ploughed and what crops shall be put on them. Repairs, improvements, &c., are also stipulated.

Chas. F. Wadsworth, the oldest son of Gen. James S., was not bred a farmer, but has recently purchased a farm of 800 acres, and enters upon farming with all the enthusiasm of his brothers. He makes the breeding of Short-horn cattle a specialty.

Craig W. the second son, resides on the old homestead, the same that his grandfather occupied. The old mansion is beautifully located at the head of and facing the principal streets of the village. It is surrounded by grounds, almost entirely ornamental, consisting of 150 acres. The view from all parts of these grounds is very fine overlooking the valley and cultivated upland for miles away. He was educated a farmer, and has a decided taste for and enjoyment in the pursuit. His farm contains 1800 acres, mostly on "the flats." He has sixty head of thoroughbred Short-horns. He gives their breeding his personal attention, and takes great pride in producing fine animals, treating them as tenderly, and talking to them as lovingly as an indulgent father to his children.

He is grazing about 350 head of stock cattle. He buys steers in the spring, not less than four years old, and turns them to pasture, to graze for five or six months. On this luxuriant feed they gain from 350 to 400 pounds, when they are sent to the butcher. He is also making a point of breeding fine horses, and has fifty valuable horses besides those employed to do the work of the farm. His stables are perfect models, and worth a long journey to see.

James W. Wadsworth, the youngest of the three brothers, is not only an extensive but an enthusiastic and successful farmer and stock breeder. He has a fine farm of 1300 acres in the town of Groveland, devoted exclusively to grazing, a sheep farm of 1500 acres in Caledonia, and one at Genesee, of 275 acres. On the latter farm he keeps his thoroughbreds, of which he has about fifty. Here, Mr. Wadsworth has just completed two fine stock barns, horse barn, corn house and herd-keeper's house, at an expense of \$12,000.

—The Louisville *Farmers' Home Journal* says that the third annual fair of the colored people of that place and vicinity was largely attended every day, notwithstanding the weather was quite chilly a portion of the time. The displays in the various rings are highly spoken of also.

FARM-WONDERS.

The following poem was read at the Fair of the Hampshire County, Mass., Agricultural Society, at Amherst, by Prof. H. W. Parker, of the Agricultural College.

My theme is wonder: and where does wonder dwell?
On fiction's page, or in some enchanter's spell?
In caverns of spar, in hills of silver and gold?
In tropical wilds, or the wastes of arctic cold?
Lo! here and every where it abides,
Lurks by the highway and all around us hides—
Nay, stands in full view, regarded not by the blind,
Who lack the thousand eyes of a studious mind.

These towering trees, and the blessed fruits or grains—
Burn them, and only a mound of ashes remains;
The tons of water took wing and vanished in gas—
Truly a sea is your meadow of waving grass.
And the forest monarch that lies in slow decay,
Blackening to mould—it is verily burning away
With a heat that never in roaring flame appears,
Only because it is spread through a hundred years.

This field of tubers—the food of the Emerald Isle—
What wonder is here that can a moment beguile—
Plant of a marvellous family!—cousin, indeed,
To an herb of bad reputation, the nicotine weed,
And to three of the deadly drugs the doctors know,
And the fiery peppers our grandmothers used to grow,
'Tis the egg-plant's brother, its sisters the bittersweet
And a maidenly flower or two that we love to greet.

But see that broad-winged insect, with buttons of gold—
Two rows on his black tail-coat, like a soldier bold!
Do you know he is stingy of buttons to his wife,
And was fond of your parsnips in his early life?
And there is that innocent looking one in white,
With tips of black that are barely seen in his flight—
Do you know that he came from Europe a while ago,
And his children will eat your cabbage sprouts by the row?

And there are the birds; the restless noisy wren,
That scolds all day like a little lunatic hen—
Know you, my fussy friend, that it soon wears out,
For it lives but four short years, or thereabout.
And then your horses and swine—why, who would
suppose

They are classed with elephants,—smaller, shorter in
the nose,
But flexing that feature in quite a handy way,
To search the ground, or to pick and nuzzle the hay.

The outcrop of sandstone, here on your valley farm—
A very bad crop to raise—lo! here was an arm
Of the ocean; and then the rock was muddy shore,
By feathered reptiles tracked—prize poultry of yore,
So large that, if sold at the present market rate,
Any one would have bought a set of silver plate.

Evening descends, and the bright day's work is done.
How strange to know the metals that boil in the sun;
And to learn that only the red waves struggle through
At sunset, because they are large-st; and that the dew
Never falls, as we say; and why we hear the sound
Of far-off water at night, when the air is damp;
And why, in yon orb that glimmers, our nightly lamp,
The air and oceans were long since lost in the ground.

But, say not that science dissects and pickles the face
Of beautiful Nature, forgetting her sweetness and grace.
There are infinite lies in yonder mountain blue,
And infinite mystery hides in its tender hue;
And to him who understands, there's infinite charm
In the tints and flowing sweep of the homeliest farm.

Shame that a wonderful world, which God designed
To be the first primer for man's immortal mind,
Should never be learned—not even its alphabet,
That shines in all forms and colors of beauty set.
Sad—sad, that to many the joyous knowledge is lost
Which glorifies labor and richly repays the cost.
Come, friend! study books and Nature; open your eyes,
And live the life of eternal happy surprise!

CRAB APPLES.—The exhibitions which have been made at the Fairs of the Vermont Agricultural So-

ciety for the past few years show that great improvement has been made by grafting and cultivating this hardy fruit, in the northern part of that State. We have recently received from Herendeen & Jones, Nurserymen, Geneva, N. Y., a package of the Marengo Siberian Apples, (or Marengo Winter Crab,) No. 4, which show that their cultivation is not confined to northern Vermont and Canada. They are of so rich and pleasant a flavor, as an eating apple, that the word "crab," seems quite a misnomer for this fruit. Their general color is a lightish red, with slashes or streaks of a darker red, with some white, size from 1½ to nearly 2 inches in diameter, and altogether it is a handsome fruit. The four varieties of the Marengo Siberian Apples, cultivated by Messrs. Herendeen & Jones are much similar in all respects, except time of ripening and keeping, which varies from fall to late spring. That they are excellent as preserves, we had evidence last year in testing specimens put up by our correspondent Z. E. Jameson, of Irasburg, Vt.

PRICE OF MILK.

The Board of Managers of the Milk Producers Association met in Boston, Sept. 6, to fix the winter price of milk furnished by the can to the contractors. This meeting was adjourned to Friday, Sept. 15, at the Quincy House. A committee consisting of J. A. Harwood of Littleton, Wm. Ramsdell of Milford, and Hammond Reed of Lexington was appointed to make arrangements for holding the next annual meeting of the Society. Notwithstanding the facts that cattle, swine, grain, dairy products and some other articles of produce are lower than last year, it was voted by the managers of the Milk Producers Association that in consequence of the small crop and high price of hay, and the high cost of articles which have been raised by farmers to make up the deficiency of the hay crop, estimated at one-fourth less than the usual yield, that the same price as last year,—50 cents per can,—be demanded for milk from Oct. 1, 1871, to April 1, 1872.

The Contractors or Milk Dealers were also in session at the same place, and each association appointed a committee of conference. After consultation the committee reported there was no prospect of agreement; the contractors being willing to pay only 45 cents per can.

The question was then discussed in open meeting.

Mr. Rowell, in behalf of the contractors said almost everything else in the line of food is reduced in price from 10 to 50 per cent. and the consumers of milk cannot see why it should not be reduced from 9 to 8 cents a quart.

Mr. Brown, contractor, believed he could get all the milk he wanted at 45 cents a can, and Boston would be supplied at 8 cents a quart. There were so many producers near market anxious to get their milk in, that distant producers would be shu-

out at the price demanded. The retail price could not be held at 9c a quart.

Mr. Robertson, of Braintree, producer, had talked with several peddlers who expected to pay more for milk this winter than last. The contractors in the vicinity of Boston were willing to pay the same as last year.

Mr. Haskell, producer, was confident that the farmers in the district above Groton Junction are not prepared to make milk for a less price than last season. They did not make a dollar profit at that price. Some had said they would give up the business, sell a part of their stock, fat calves, and get rid of their milk as best they could. He thought that if the price was reduced to the consumer a portion of the reduction should be borne by the contractors.

There being no probability of an agreement the meeting was dissolved. The Managers of the producers, will call together the associations they represent and submit to them the result of the conferences.

THE SWINE EXPOSITION.—The old adage that "circumstances alter cases," has been sadly verified by the managers of the great National Swine Exposition at Chicago. The fact that pork is worth less than one-half as much in market now as it was one year ago has wonderfully dampened the enthusiasm of farmers in respect to swine, and many feeders probably entertain a somewhat similar feeling towards pigs that John Randolph did towards sheep when he made his famous remark that he would walk half a mile for a chance to give one a kick. The show is represented as by far the most extensive and complete of the various breeds of swine ever made in this country, if it was ever equalled in any country, but we regret to learn that the receipts fell far short of the expenses of the exhibition.

For the New England Farmer.

MAINE BOARD OF AGRICULTURE.

The farmers of Eastern Maine in council—Under-draining—Progress in Agriculture—Cooking food for stock—Value of hay and corn for feeding stock—Improvement of pastures—A flock of visitors—Pay as you go—Clean cultivation—Manures—Fruit and fruit trees.

The autumn session of the Maine Board was commenced at Lincoln, forty-five miles east of Bangor, on the line of the European and North American railroad, on the 19th of September, and continued the two following days.

A farmers' convention was holden in connection with the Board, which was fully attended by a community of intelligent and prosperous farmers, together with a goodly sprinkling of ladies. It was agreed upon all hands that the session was one of unusual interest.

The first forenoon was taken up with preparations and arrangements. In the afternoon

an address of welcome to the Board was made by Col. Hersey of Lincoln, followed by John Robinson, Esq., which were responded to by Z. A. Gilbert, Vice President, in his usual happy manner.

In the evening was read a paper upon under-draining, by Mr. Hawes of Knox, a member of the Board, which was a plain, practical, common-sense paper, going to show by practical experience the value of intelligent efforts in this direction. This was followed by Frank Buck, of Orland, upon "Progress in Agriculture." This paper was highly spoken of, but not having heard it, your correspondent can only express the opinion of others.

Wednesday Morning.—The President, who had stopped on the way to give the address before the East Kennebec Society, at South China, appeared and took the chair. Z. A. Gilbert, member for Androscoggin, gave a practical, intelligent and exhaustive lecture upon "Cooking Food for Farm Stock." Mr. G. showed conclusively that thirty-three per cent. could be saved by cooking, and that at a small expense. He has visited several of the most noted feeders of steamed food in Massachusetts and Connecticut, among others Gov. Brown, Wm. Birnie and the Messrs. Wells, conversed with them and examined their fixtures, and was able to speak advisedly. Intelligent experiments had always proved satisfactory and in no case has the practice been abandoned as unprofitable. The woody fibre must be broken up to liberate the nutritive elements, and this can only be done by heat and moisture, and this can be far more cheaply supplied by steaming than by the animals, as in the one case the fuel is dry wood and in the other hay and grain. The most carefully conducted experiments demonstrate that twelve pounds of hay and six pounds of meal and shorts mixed are equal when steamed to eighteen of hay and nine of meal and shorts fed dry, both for flesh and milk. Steamed food is considered by many observers as a specific for coughs and incipient heaves in horses. As to the question, "Is steaming practicable on a small scale?" Mr. G. said one of his neighbors in Lewiston, Mr. Dickey, had practiced it systematically on a small scale, and is abundantly satisfied with the result. A steamer for a small stock costs less than a mower, is of far greater utility, and for successful dairying is of the very first importance. Steam has worked wonders for all other classes, and is yet to do so for the farmer.

In the very spirited discussion which followed the lecture, Secretary Goodale said the subject had been treated so exhaustively that he knew of no more to be said. The testimony is unimpeachable, being of the highest character and all on one side. For late cut hay, swale hay, straw, corn fodder and all poor fodder, it is of the very first importance

that you thus put it in such condition that the animal will eat it and can utilize it. All the heat you put in is equivalent to so much food. Nearly all diseases of animals in winter arise from constipation, which is almost wholly obviated by feeding steamed food. It adds to the value of the food by rendering the indigestible parts digestible. The risk of fire is not materially increased.

The whole subject was discussed in a manner that showed that farmers had thought upon it and had discussed its importance.

Afternoon.—A very carefully prepared paper was read by Mr. Wasson, of Hancock, upon "The Comparative Value of Hay and Corn for Feeding Farm Stock," a subject upon which all are ready to talk, and upon which very few have any accurate knowledge. No general rule will apply because of widely varying circumstances. Bulk, to a certain extent, is as essential as nutriment; and it is safe to say that one-fourth can be saved by a warm barn over a cold one. Have regard to the increased value of the manure from good food. Commence to increase your fodder by weeding out the poor and mean animals which ought to go to the butcher or to the dogs, even were hay ever so plenty. The feeding of meal will not induce disease in milk cows if the meal is mixed with one-third shorts and the cow fed upon half hay or other fodder.

In the animated and interesting discussion that followed, the general idea seemed to obtain that fifteen bushels of corn fed judiciously was equal to one ton of merchantable English hay. The general opinion seemed to be that meal should be fed wet rather than dry. One gentleman expressed the opinion that cattle for beef exclusively could not be grown at a profit in Maine. One of his friends said they paid a profit to somebody, for the gentleman had himself made \$1500 the past season, by buying cattle at grasshopper prices. Query, Is the NEW ENGLAND FARMER read in his vicinity?

This was followed by Mr. Scammon, of Scarborough, on "Improvement of pastures." The base of all successful farming is the manure heap, and the base of the manure heap is the farm stock, (true, every time,—*Rep.*) No farmer can afford to raise weeds and worthless bushes. Reclaim pastures according to circumstances, but do something to improve them. Clean up the bushes and weeds, pasture with sheep, manure with muck composted with ashes or with lime and salt. Some places should be drained; some are benefited by resting every seventh year. If your pasture is large, plant a part to forest trees or let a portion grow up to wood of itself. This is nature's system of rotation.

The paper was followed by remarks from Secretary Goodale, Messrs. Farrington, Superintendent of College farm, Robinson, Gilbert, Thing, Wasson, Prof. Fernald and others. The general, and indeed almost the

universal opinion, was that land intended for permanent pastures ought not be ploughed.

I ought to have said before that soon after the business of the day commenced, we were disturbed by an unusual tramping upon the stairs, and a confused hum as of the sound of many voices. The door was unceremoniously thrown open, and in walked Rev. Dr. Allen, our newly elected President of the Industrial College, followed by Prof. Fernald, Prof. Pike, late of the Boston school of Technology, Farm superintendent Farrington, and between thirty and forty of the finest looking young men, all college students, that I ever saw together. (Tell Amherst to look out for her laurels.) The President of the Board protested against being thus overawed and overwhelmed by larger bodies, but was assured by President Allen, that they were merely reserves ordered up for active duty, and right manfully did they discharge it.

Evening Session.—President Allen in the chair. Address by D. H. Thing of Kennebec, subject "Pay as you go." Of the address it does not become me to speak, but it was followed by earnest, eloquent, impassioned words by President Allen, Prof. A. P. Fernald and Hon. A. M. Robinson, who was extremely eloquent and intensely earnest in his words of advice to the students. He closed by saying, "when you make up your minds to stay in Maine, then will you begin to make such homes as you will be willing to dwell in. Therefore decide to stay in Maine. Improve all your time, educate your minds, hearts and bodies, get yourselves farms, take to yourselves wives, settle down, multiply and replenish the earth. Thus will success attend you and contentment sweeten your life."

Second Day.

(Notes of Thursday forenoon mislaid or lost.)

Afternoon.—Papers by Maj. Adams of Franklin, on "Manures," and Col. Swett on "Clean Cultivation" were read. The former argued that our principal source of fertility was at home, and dwelt upon the importance of economizing every available thing suitable for the compost heap. Col. Swett pleaded earnestly for clean culture, and gave some startling statistics of the cost of raising weeds, premising that it lessened the crop at least one-fourth to raise the weeds annually grown in Maine. (An argument in favor of cooking food for stock, and thereby killing the seeds,—*Rep.*) When the Colonel got through, the Hon. T. Fuller asked him how he could kill witch grass. The Colonel raised quite a laugh by replying that his own farm was full of witch grass, and that he considered it one of the very best grasses, and no weed at all. Mr. Fuller thought if witch grass was not a weed he could see his way clearly to clean cultivation, for the witch grass would subdue everything else.

The evening was devoted to "Fruit and

fruit trees," and was mostly taken up by Secretary Goodale upon the cultivation of pears. A gentleman from northern Aroostook said that a few of the best varieties of apples succeeded well with them; among the most hardy of which was the Duchess of Oldenburgh. The discussion was general for a short time, when the subject was laid upon the table and resolutions were offered, expressive of the regret of the Board at the withdrawal of Calvin Chamberlain, whose term of office expires with the present year, which after remarks by quite a large number of gentlemen were unanimously adopted. Mr. C. has been connected with the Board fourteen years. A vote of thanks was tendered to D. H. Thing for his acceptable services as President of the Board, which were responded to by that gentleman at some length. Resolutions of thanks to the citizens of Lincoln were passed and responded to, when the Board adjourned to meet at Paris Hill, probably on the third Tuesday of January next.

T.

For the New England Farmer.

THE FLOWER GARDEN.

Our gardens are now ablaze with the brilliant flowers of autumn. The geraniums are in great magnificence, in all hues,—scarlet, cherry, brightest of pink, palest of pink, salmon color and white. The double varieties are especially gorgeous. Andrew Henderson is the most beautiful,—its scarlet tresses are of the richest dye, and its flowers are double as roses. Madame Lemoine is of the brightest pink, and its clusters are enormous—fifty and sixty blossoms on one truss, are no uncommon sight.

The verbenas are now beauteous in all their varied tints of purple, crimson, scarlet, maroon, lilac, magenta, pink in all its shades, and indeed every color but sky blue and yellow, seem represented among their numerous varieties. The nasturtions creep in coils of scarlet, gold and lemon color, splashed with velvet of the darkest maroon hues. The Japan lilies exceed all other flowers in the richness and loveliness of their blossoms. Asters, balsams, petunias, stocks, euphorbias, achryanthus, colens, and all the glorious sisterhood lift their bright heads adorned with vivid splendor.

But, alas! a sudden change will come over them. A cool twilight will gather,—King Frost will muster his battalions, and when another day shall dawn, his troops will sparkle from flower to flower,—not one blossom will hang untarnished from its stem,—they are dead, crumpled and sere. The black, killing frost has come, and the glory of the summer has vanished,—is like a tale that is told,—only its memory remains. A few hardy perennials still hold up their heads, but the fragile things, the brilliant flowers, the fair, fragrant and frail are utterly destroyed!

"Where are the flowers, the fair, young flowers, that lately sprung and stood
In brighter light and softer air, a beauteous sisterhood?"

And now the question is, what shall we do with these great bushes of geraniums, heliotropes, feverfews, &c., that have done their duty during the summer, and have grown to such a size that they can no longer come under the head of Window Gardening? If reserved for the latter purpose, they will not look decently for months, for they have blossomed incessantly for five months, and now demand and will have a season of rest, and if they are taken up for house plants, their roots have spread out over so large a space that but few of them can be saved, and it is needful to cut them in severely: i. e. prune off a dozen, at least, of their branches, leaving only three or four, and taking off the largest leaves of those that remain. Of course, while pruning them, due regard must be had to their shape, and be sure to do it so as to leave the plant in as graceful a form as you possibly can, if you must keep it growing. Though the plants are so large, they can be accommodated in a six or seven inch pot. This is supposing they are to be treated as window plants.

But a much better way is to raise slips from them for house culture, and reserve the large plants for budding out another spring. Any plant that possesses a woody nature can be kept over the winter in boxes in the cellar. Geraniums, fuchsias, lemon verbenas, heliotropes, roses, &c., will all remain in a dormant state until spring. Then, if brought up to the light, all the old leaves removed and some of the branches cut off, they will put forth vigorous shoots, and soon make larger plants than those of last season. To preserve them for this purpose, just before a black, killing frost, pull up all the plants that you desire to save and cut off the greater part of the leaves, allowing but a few to remain on the branches. Plant them in boxes about six inches in depth and set the plants quite closely together, filling tightly into the roots some light, sandy soil that will not mould. Water them thoroughly and keep in the shade, setting the boxes into the barn or wood-house for two or three days, where they will not be frozen. After that, if the weather is warm, let them have some sunshine and fresh air.

When the weather has become quite cold, take the boxes into the cellar, where it is frost proof. When once established in their winter quarters, no water will be needed for six or eight weeks. Place the boxes where potatoes are kept; too near a furnace will injure them. They do not desire to grow, but to remain dormant and muster their strength for the coming spring.

All kinds of delicate tea roses can be kept over the winter in this manner. They should be examined once a month, and the decayed leaves removed, lest they make them mould and injure the plants.

Oleanders, lemons, oranges, pittosporum, and all such plants can be safely wintered in the cellar. Carry down the large tubs about the first of November; water them once a month with warm water, and they will keep in fine order. Care must be taken to place them where they will not be sprinkled with the fine coal dust from the sifting of ashes. This would choke out all their life.

Scarlet salvias can be lifted from the ground after their stalks have been cut down, and their roots buried in sand, like dahlias. In the spring they can be divided into several plants. *Salvia patens* (blue Mexican sage) can be treated like a dahlia,—its roots having similar eyes, which will start out afresh in the spring.

Scarlet geraniums,—indeed all the horse-shoe or zonal varieties,—can be wintered in cool, frost-proof, dry cellars, by pulling them up by the roots, shaking off all the soil, and cutting off all the buds and blossoms. Then tie them head downwards, to the beams of the cellar. In April they will look dried up, wilted; but when transplanted they will soon recover and grow luxuriantly.

The English have tried wintering geraniums, heliotropes, roses, &c., by burying them in a trench under ground, below the reach of the frost. Roses are frequently, in the United States, kept safely in this way; but the more succulent plants have not been extensively tried, if at all. But our readers can make the attempt, and if they succeed, inform the NEW ENGLAND FARMER of their experiment. The trench must be dry, where no water can remain at a depth of two feet below the level, and it must be below the touch of the frost. The plants are laid in by the roots, in a row; then covered with straw, placed so as to carry off the water,—boards placed over the straw would be a good preventive to dampness,—then shovel in the earth to a depth according to the needs of the climate, and finish off with a ridge or roof, shaped so as to carry off all water. With a little care exercised in preparing the trench, there is no reason why most of our half-hardy herbaceous, bedding-out plants cannot be safely preserved for another summer.

Dahlias and gladioli must be removed to winter quarters before the ground freezes hard. The former flowers are in their glory now, and their beauteous blossoms will ornament the gardens much longer if when the first frost threatens they are protected at night with old sheets or blankets,—a water proof cloak will, if thrown over it at night, save a fine plant, and make it a joy for several weeks to come.

When the hard freeze must come, gather the flowers and keep them in vases. By changing the water daily, they will keep fresh for a week or more. The stalks should be cut down after the leaves are seared and the ground is freezing nightly. The soil is then

shaken from the tubers and they should be laid in the sun for two or three days to dry off, being protected from the cold, by a blanket at night. This prevents any tendency to mould during the winter. When thoroughly dry, pack them in boxes or barrels, in sand that has been also dried in the sun; set them in a cool, dry cellar, where the rats will not touch them.

Gladioli should be allowed to remain in the ground as late as possible, as the richness of their blossoms another year depends upon the maturity the bulbs gain before being removed to winter quarters. But when the chilly north wind stiffens your fingers, then pull up the stems, cutting them off about two inches from the bulbs, shake off the soil, let them dry in the sun for several hours, but by night store them away in paper bags or boxes, in a dry place. They can remain in a warm closet without injury to these flowers.

All our plants are ready for window gardening. I counted this morning 105 pots. Quite a formidable array to fill five small windows! *Pater-familias* gazes at them with ill-disguised dismay, and asks in lugubrious tones, "are all those things coming into the house? Surely, there are not windows enough to hold them!" But we shall find a place for every one of them, and rejoice over each plant. We have treated them to the best compost we could procure; have potted them with great care, pressing the soil tightly about their tender rootlets.

Fuchsias are now in full bloom, and the ten plants that we possess are marvels of beauty and elegance. As soon as they cease blooming, with the exception of the winter blooming varieties, *Speciosa* and *Serratifolia*, the pots will all go down cellar and remain on a swing shelf, out of the reach of rats and all vermin. We determined on this course last year, when the red spiders *would twine* their invisible webs around all their branches and we could only dislodge them by constantly sifting "*Fertilizer*" over their leaves. They did not blossom, did not add anything to the beauty of our "Window Garden," but were great additions in April, May and June, on to the autumn.

By all means, fair friends, procure some variegated-leaved plants for your windows. The *Coleus* requires stove heat—green-house culture—to thrive well; but the *Achyranthus* will grow anywhere, if it does not freeze. There are three or four varieties, and all desirable. Their bright-hued leaves do duty for flowers, and when the wintry sun shines in through their rich crimson, magenta and maroon-colored leaves, the effect is gorgeous!

Hanging baskets should not be forgotten; every one of us must have at least one, and Dutch flowering bulbs must add their delicious fragrance and many brilliant hues to every plant stand and window garden. In another

article we will treat upon them and give directions for their culture.

S. O. J.

For the New England Farmer.

A NEW HAMPSHIRE BREEZE.

Two men, one from New Hampshire and the other from Ohio, chanced to meet at a public dinner in New York. The man from Ohio suggested to him of the Granite State that it might be advantageous for him to remove to the West, if he intended to follow the pursuit of a farmer. The Yankee thought differently: there was no State in the Union equal to New Hampshire. He of the Buckeye State would not agree to this: Ohio was in every respect superior. The Yankee wished to know a superior feature. The Buckeye commenced to enumerate, but as fast as he presented his claims of superiority, his antagonist unhesitatingly swept them away by vigorous declarations to the contrary. At length, when all other sources of argument had failed, the exasperated Buckeye confidently observed: "You will at least allow that Ohio justly claims superiority over New Hampshire regarding its extent of territory?" "No, sir!" emphatically responded the Yankee. "Your State spreads out because it is flat. Look at the mountains of New Hampshire! Goodness mercy! Just roll 'em out flat and they'd make territory enough to cover up the whole of Ohio and fill up a big slice of Lake Erie!"

This anecdote has often been recalled while traversing this State, for we alternate continually, when riding, from level prosaic earth, to an aspiring, lofty world. Yet scarcely are we ever beyond the vision of its calm, huge hills. From their patience, illustrating a sermon on the mount, we receive a lesson read nowhere else, and which we convey back to the world of bricks to control there an active life, if we can but remember

"We receive but what we give.

And in our life alone does Nature live."

So does your correspondent return year by year to these mountains of New Hampshire. They bear intimacy and close study so well, one can never tire of them. Change is written on everything everywhere, yet their rock-ribbed heights remain seemingly the same as when my longing eyes first rested upon them, and they can endure admiration,—there stolid gravity remains unmoved. They rise in the landscape "as heroes and prophets in history, emboded by what they have given, sublime in the expressions of struggle and pain, invested with the richest draperies of light, because their brows have been torn and their cheeks been furrowed by toils and cares in behalf of districts below. Upon the mountains is written the law, and in their grandeur is displayed the fulfilment of it, that perfection comes through suffering."

Now that railroads are so rapidly tracking New Hampshire, we find the condition of the

people more prosperous than we have ever known it. North Conway seems to be the focus for every railroad, and it is natural enough, for it has the most exquisite setting, surpassing every other village or town in the State. With Mt. Washington at the head of the valley, and the whole great mountain architecture surrounding him, with the Rattlesnake range for a rear wall, and beautiful Kearsarge northwest, a mile away, with Mote mountains calmly rising on the west, and peering round from the southwest, strange Chocoma, with hill after hill everywhere swelling towards loftier peaks, and itself trailing for several miles along the banks above the channel of the glistening Soco, and the three miles' breadth of intervals, picturesque with luxurious loveliness,—who would not live in Conway in preference to any other place? And it is hoped that the taste and wealth and prosperity which railroads invariably scatter, will improve Conway still more,—that barns and wretched sheds will be moved from slightly places, and houses and grounds receive better arrangements. It is enough to disgust and disenchant any one with decent ideas regarding the arrangement of pleasant homes, to pass through New Hampshire. I sometimes believe that men try to give their houses as dreary a location as it is possible. As for farming, why there's reason enough why farmers complain that their sons dislike the profession and seek other employments, or drift into the cities. Many farmers, in Maine and in New Hampshire especially, appear to be suffering from a severe attack of vertigo, or they have been lightning-struck. This is altogether inexcusable and a matter of regret. They need not complain of a want of time to improve things,—there's many a leisure day in a farmer's life. When men put more pride, more education, more taste and appreciation into their farming, their daughters will not sigh for the small talk and peacock airs of counter-jumpers; neither will their sons leave homesteads in search of professions where brains stand a better chance than muscle. How true it is that one thrifty, self-respecting man can affect the prosperity and respectability of a whole neighborhood! My host bought this pleasant retreat four years ago. It was then in the common condition of many New England farms,—the buildings weather-beaten and dilapidated, the lands generally used up, the fences but crazy apologies to prevent the intrusion of cattle. He went to work, and now there is not a prettier place or a lovelier location hereabouts, and better still, this homestead has doubled its value. Not only that, my host, by the assistance of a prudent, willing and loving helpmeet,—and a man without a true wife, "a perfect woman, nobly planned, to warn, to comfort and command," might as well stop living at once,—has become "very forchanded," and tastes his well-spent, well-earned substance with com-

fort and thankfulness. All the neighborhood has changed and improved. The farms are well kept and trim, the orchards free from rubbish, the lands cleared of stubble, white fences displacing the crazy old boards, ornamental trees, clean, comfortable barns and cosy white houses,—everybody taking pride in their homes and surroundings, just because one man of thrift, energy and taste, appreciating the object of living, chooses to enjoy a neat, comfortable, and consequently, attractive and pleasant home.

Why is it that farmers keep such shocking and doleful-looking horses? To be sure, they keep them for work, but what makes them appear so bony and troubled, even when young? Show me a plump, bright horse, and in its owner I'll show you a man with a generous heart. Ah, Flotwing! happy is memory to recall thy swift-footed virtues. May thy shadow never grow less!—and it never will while my host possesses thee.

Isn't it singular how differently people live? Now that I'm dwelling upon it, I must tell you how a class of Uncle Sam's children, called "mountaineers," exist among the Ossipee mountains, whose heights my eyes rest upon daily. We rode over and about one of the mountains one afternoon, and it is truly marvellous that, so near the cities, people can be found so barbarous, and really prefer being so. About twenty-five families exist among these hills, literally "like pigs." They live "from hand to mouth," the men walking many miles from the mountains to work on the adjacent farms, returning at evening; the women and children,—and they are just as thick and brown as blackberries,—pick berries all day upon the hills, walking many miles to sell them. They are never happy away from their mountain homes, and will hurry back when night comes, with all the ardor of a lovesick swain. A man in Moultonville, one of the villages in the town of Ossipee, hired a mountaineer for a time, and brought him home one Sunday night! When the family arose in the morning, the fellow had cleared for his mountain nest, so homesick had he already become. Another mountaineer had the use of a farm offered him at Ossipee Corner. He moved upon it and into a nice, comfortable house, but the wife, in a week, wept herself sick and useless, and he was forced to return to their mountain hut. Their children are as ignorant and nearly as wild as savages, and it is only within a few years that a school has been established among them, with faint success. It is kept in some home shanty, and the session continues six weeks. This suffices for a year. They clan together closely, living and quarrelling among themselves. One can scarcely ever be engaged to work alone,—they must labor in company. Other men's society is uncomfortable and makes them dumb. If one or a party be engaged for the morrow's harvesting, Farmer John never depends upon

them till they appear. May be they do not choose to work when the morrow comes; perhaps some one has offered them a few more pence for the day. They never hold themselves responsible for any inconvenience they occasion the farmers who are obliged to employ them, as laborers are scarce. They are obliged to start by daylight from their huts to get to work early enough, and they breakfast at their employer's table, yet so unreliable are they that their breakfast is seldom prepared till they appear. They are employed for one dollar per day,—two during haying,—and faithful workers they are too. This is their redeeming quality. They are thoroughly destitute, having no ambition to better their condition. It is a practice with farmers having discontented wives to take them among the mountaineers on a visit,—a wise and shrewd stratagem, for the fretted women always return apparently satisfied with their cares and condition. And these ignorant mountaineers reside in New England, where education is as free as water and civilized modes an established fact. They cannot read a newspaper, and scarcely know the meaning of politics. Yet they can exercise the right to vote, without understanding or appreciating the privilege, while the most intelligent women in the republican United States,—even Mrs. Julia Ward Howe or Mrs. Livermore,—are not allowed to do so.

Everything is being done to keep down the price of hay, now forty dollars per ton. Fortunately corn is abundant, and it has been equal in price with hay, ton for ton. Potatoes are excellent and plentiful,—good tidings for the poor. But apples will be few and expensive; cider ditto. Last fall cider was literally as cheap as water, for at a fire not far distant, where the streams and wells had been dried up by the drought, a quantity of cider was freely used and property saved that had been fired in seven places.

SUSIE C. VOGL.

*Pleasant View Home,
Tunworth Iron Works, N. H., Sept., 1871.*

THE LOVE OF DIRT.

The love of dirt is among the earliest of passions, as it is the latest. Mud pies gratify one of our first and best instincts. So long as we are dirty, we are pure. Fondness for the ground comes back to a man after he has run the round of pleasure and business, eaten dirt, and sown wild oats, drifted about the world, and taken the wind of all its moods. The love of digging in the ground (or of looking on while he pays another to dig) is as sure to come back to him as he is sure, at last, to go under the ground, and stay there. To own a bit of ground, to scratch it with a hoe, to plant seeds, and watch the renewal of life—this is the commonest delight of the race, the most satisfactory thing a man can do. Let us

celebrate the soil. Most men toil that they may own a piece of it; they measure their success in life by their ability to buy it. It is alike the passion of the *parvenu* and the pride of the aristocrat. Broad acres are a patent of nobility; and no man but feels more of a man in the world if he have a bit of ground that he can call his own. However small it is on the surface, it is four thousand miles deep; and that is a very handsome property. And there is a great pleasure in working in the soil, apart from the ownership of it. The man who has planted a garden feels that he has done something for the good of the world. He belongs to the producers. It is a pleasure to eat of the fruit of one's toil, if it be nothing more than a head of lettuce or an ear of corn. One cultivates a lawn even with great satisfaction; for there is nothing more beautiful than grass and turf in our latitude. The tropics may have their delights; but they have not turf; and the world without turf is a dreary desert. The original garden of Eden could not have had such turf as one sees in England. The Teutonic races all love turf; they emigrate in the line of its growth. To dig in the mellow soil—to dig moderately, for all pleasure should be taken sparingly—is a great thing. One gets strength out of the ground as often as one really touches it with a hoe. Antæus (this is a classical article) was no doubt an agriculturist; and such a prize-fighter as Hercules couldn't do anything with him till he got him to lay down his spade and quit the soil. It is not simply beets and potatoes and corn and string-beans that one raises in his well-hoed garden; it is the average of human life. There is life in the ground; it goes into the seeds; and it also, when it is stirred up, goes into the man who stirs it. The hot sun on his back as he bends to his shovel and hoe, or contemplatively rakes the warm and fragrant loam, is better than much medicine. The buds are coming out on the bushes round about; the blossoms of the fruit trees begin to show; the blood is running up the grape vines in streams; you can smell the wild flowers on the near bank; and the birds are flying and glancing and singing everywhere. To the open kitchen door comes the busy housewife to shake a white something, and stands a moment to look, quite transfixed by the delightful sights and sounds. Hoeing in the garden on a bright, soft May day, when you are not obliged to, is nearly equal to the delight of going trouting. Blessed be agriculture! if one does not have too much of it. All literature is fragrant with it, in a gentlemanly way. At the foot of the charming olive-colored hills of Tivoli, Horace had a sunny farm; it was in sight of Hadrian's villa, who did land-scape gardening on an extensive scale, and probably did not get half as much comfort out of it as Horace did from his more simply tilled acres. We trust that Horace did a little hoeing and farming himself, and that his verse is not all

fraudulent sentiment. In order to enjoy agriculture, you do not want too much of it, and you want to be poor enough to have a little inducement to work moderately yourself. Hoe while it is spring, and enjoy the best anticipations. It is not much matter if things do not turn out well.—*Charles Warner.*

For the New England Farmer.

BABY BELLE.

BY JENNIE E. CHENEY.

Pure as a lily, sweet and white,
Folding its petals from the night,
Sleepeth our darling—Baby Belle;
When will she wake? Ah! who can tell?

She lieth so hushed, so calm and pale!
My kisses lift not the lids that veil
The violet eyes, in their deep repose,
And her cheeks are chill as the winter snows.

The Shepherd was calling long and late
Last night, outside my garden gate;
I heard—but I barred the door so fast,
And wearily wished the night were past.

Though never so hard, he should beg to hold
This lamb of mine, in his arms so cold—
She is all my own, to keep and love;
God needeth her not, in His Heaven above.

So the night wore on, while I grieved and wept,
But my darling smiled as she softly slept.
Did she hear in her dream, the voice so sweet,
Of one who waited with patient feet?

I shut my ears to the gracious cry,
And begged and prayed that He might pass by;
Yet this morn I rose, with a heart full sore,
The dim, shrouded Watcher had entered the door.

OUT-DOOR CELLARS.

Perhaps some of your readers are not aware how cheaply they can make out-door cellars which answer a good purpose in storing all kinds of roots. Not having a cellar to my barn, and raising several hundred bushels of roots which I wished to feed to cattle and sheep in the winter time, the idea occurred to me to make a cellar in a bank convenient to both the barn and the shed.

As it was an experiment with me, I thought I would make it as cheap as possible, so if there was failure there would not be much loss. It was dug out eight feet wide, sixty long, and six feet deep. The bottom was rising from the entrance to the rear end, so water would flow out, though from the nature of the ground it is not liable to overflow, and has never troubled in that way.

No walls were laid up but merely a roof put on. That was made of chestnut poles for rafters, the lower end being put in the ground to the depth of a foot. The pitch of the roof was made very steep, and the poles or rafters were put in touching one another, and the tops spiked together. Then rye straw was

laid on thick, in courses, as you would thatch, and on top of that two feet of earth, well packed and sodded. The lower end was double boarded and straw packed between, and the door built in the same way.

The cellar was built three years ago, and keeps roots as good as can be desired, and never leaks or freezes. It cost nothing to me but the labor and the price of a few nails and boards for the end.—*Cor. Rural Home.*

NATURAL SELECTION.—Disburdened of circumlocution and all extraneous details, his (Darwin's) argument takes this shape: Because by select breeding, and the accumulation of small modifications through many generations, men have succeeded in producing from the beautiful and handsome wild rock pigeon, such a monstrosity as the English pouter, represented in Mr. Darwin's work; therefore, it may be concluded that God—no, not God, but an abstraction called "Natural selection," acting without intentional or special guidance, may, by a similar accumulation of small modifications through countless generations, have formed the human species from some other species of an inferior grade in the organic scale. This analogy is not only weak but false. It would have been more accurate to have argued that because man had succeeded in degrading the wild rock pigeon into a pouter, natural selection might, by an accumulation of small modifications, have degraded some abnormal, inferior specimen of the human species into a gorilla.—*The Beginning: Its When and its How, by Mungo Ponton, F. R. S. E.*

DON'T BE DISCOURAGED.—Many think they never saw such discouraging times. The young people probably never did; but we old ones have seen much worse. In 1816 I commenced farming on my own hook. I had just got married, and was full of courage. The spring was dry, and we got in our crops in good season. On the 6th, 7th and 8th of June it snowed each day, and a sleigh passed my house in Lancaster, N. H., for the village, on the 8th. Not a bushel of sound corn was raised in the north of New Hampshire or Vermont, nor a bushel of ripe potatoes except Early Blues, and most of the wheat was frost bitten, and hay crops light; yet nobody starved, all were healthy and received the bountiful crops of 1817 with thankful hearts and good appetites. The year 1835 was another hard time—harder than this, for people were poorer, and means of transport less. I repeat, don't be discouraged. Trust in Providence, keep trying, and all will come out right.—*John H. Willard, of Wilton, in Maine Farmer.*

—Improved lands in California are lower than they were three years ago.

AGRICULTURAL ITEMS.

—The Woodstock, Vt., *Standard* says that Ivory L. Vaughan of that town has this season raised 53½ bushels of fine winter wheat from two acres.

—Over 28,000 acres of land were taken by homestead and pre-emption at the Vermillion, Dakota, land office, during August.

—It is estimated that nearly \$300,000 worth of tobacco will be raised in Jefferson Co., Wis., the present year, providing past prices are obtained.

—About 1000 acres of flax were sown in the vicinity of Morning Sun, Louisa Co., Iowa, this spring, and is now being harvested. It proves a valuable crop.

—There is a cheese on exhibition at Buffalo, weighing 3000 pounds, the product of one day's milking of 2200 cows, yielding 30,105 pounds of milk.

—A correspondent of the *Green Bay Advocate* writes from Edgerton, Rock county, Wis., that tobacco in that region is clearing, for those who raise it, from \$75 to \$150 per acre. Growers get from 13 to 19 cents per pound for the leaf.

—The Rochester (Minn.) *Post* says that probably one-third of the crop of 1870 in Olmsted county, Minn., was lost by careless or bad stacking, or not stacking at all, before the wet spell which succeeded the harvest,—an actual loss of half a million dollars to the farmers of the county.

—Dr. Randall, in the *Rural New Yorker*, counsels a "new departure" as to Merino sheep, now that interest in them is revived. He thinks the production of excessive quantities of gum, the constant housing and the unnatural pampering and forcing of the sheep should be discouraged.

—A good harness blacking is made of four ounces of hog's lard, sixteen ounces of Neat's-foot oil, four ounces of yellow wax, twenty-nine ounces of ivory black, sixteen ounces of brown sugar, and ten ounces of water. Heat the whole to boiling, and stir it until it becomes cool enough to handle, then roll it into balls about two inches in diameter.

—Mr. Cyrus Brown, of Lincoln, Mass., was 83 years old July 2, 1871, yet works regularly upon his farm, which is located southeast from the centre of the town, and on the 7th of August, cradled oats steadily one-half of the day, and a few days later, handled the same tool from morning till night, working as many hours as his hired man.

—Opposition to the use of machinery in agriculture does not so often assume the form of violence as in some of the trades. English papers report a case, however, in which an attempt was successfully made to break a new mowing machine by driving iron bars into the meadow, leaving about three inches above ground.

—An exchange says that a fire proof fence can be made by following these directions: "Make a wash of one part fine sand, and one part wood

ashes, well sifted, and three parts lime ground up with oil, and mix them well together. Apply this to the fence with a brush—the first coat thin, the second thick. This adheres to the boards or planks so strongly as to resist either an iron tool or fire, and is, besides, impenetrable by water.

EXTRACTS AND REPLIES.

WHITE-WASHING TREES.

I would like to ask the New England Farmer's Club if whitewashing fruit trees in spring is of any benefit to the trees?

T. B.

Addison County, Vt., Sept., 1871.

REMARKS.—Injurious or not, we should never advise it to be done. A thousand times better thing would be to wash them with strong soap suds. That would tend to kill insects, soften the bark, so that the trees may be easily scraped, if one wishes to make them look a little more neatly, and the suds that drip upon the ground about the roots will be an excellent fertilizer.

A tree is an organic living thing; always in action in greater or less degree. In many particulars it may be fairly compared to our own bodies. There is undoubtedly action going on, all the time, through its bark, because the bark has interstices containing cells, and these cells are filled with juices of varying qualities.

Will not a coat of whitewash, spread over the bark of a tree, impede its action, and if so, injure the tree?

How would a coat of whitewash operate on the skin of a man? The skin is full of pores, or holes, which must be kept open in order to preserve health. Indeed, it is said that if a coat of varnish, or other substance impervious to moisture, be applied to the exterior of the body, death will ensue in about six hours. The experiment was once tried on a child at Florence. On the occasion of Pope Leo the Tenth's accession to the Papal chair, it was desired to have a living figure to represent the Golden Age, and so a child was gilded all over with varnish and gold leaf. The child died in a few hours. If the skin of a pig be covered with a solution of India rubber in naphtha, the animal will cease to breathe in a couple of hours.

If, then, the tree lives and acts partly by the agency of its bark, it would seem that coating over that bark, so as to exclude the external air, would be injurious to the tree.

To our eye, it is bad taste to whitewash a tree. It does not look badly on a fence, a pig pen or even a house, but on a tree it makes a hideous object in the landscape.

BOOK ON GRAPE GROWING.

I wish to learn what treatise on grape culture affords the best directions as to the selection of varieties, mode of cultivation, and general management of the vine and its produce.

J. T. M.

Carver, Mass., Sept. 25, 1871.

REMARKS.—A few years ago there were several treatises on grape culture published. W. C. Strong

of Brighton, Mass., wrote a book of 356 pages, for which a large price, we think, \$3 was asked; Geo. Husmann of Missouri wrote a book of 192 pages, for one dollar, which appears to be the details of his own practice. Two or three translations of European Works with notes by American editors have been printed in this country. We do not feel competent to advise which is the best.

FIFE AND RED AUSTRALIAN SPRING WHEAT.

I saw in the FARMER an account of some wheat raised in Vermont, and now enclose a few heads of two different kinds, raised by myself. The bearded wheat is called the Fife wheat, and is a very extra kind. The bald wheat I received from the Department of Agriculture, Washington, (a small package) called Red Australian spring wheat. I think it an excellent kind and very productive. From eight common sized bundles I obtained half a bushel.

S. M. BAKER.

Hillsboro Bridge, N. H., Sept. 16, 1871.

REMARKS.—For size of ears and plumpness of kernel your specimens are somewhat superior to those from Vermont. Your land was probably the richest, as your straw indicates a more vigorous growth. We congratulate you on your success in wheat raising and thank you for the fine specimens of New Hampshire wheat to compare with those of Vermont.

RULES FOR USE OF BAROMETERS.

I saw in the NEW ENGLAND FARMER a request by a correspondent for a few simple practical rules as a guide to farmers in the use of the barometer. Numerous suggestions and rules are given by writers on the subject, which are worthy of careful consideration, some being valuable; but, after all the rules and directions of others are read and pondered, a personal and careful record of the changes of the height of the mercury in the tube of the instrument, as they occur each day, will benefit the observer more than mere rules and printed directions. Still they are useful in drawing conclusions, if applied at the right time and the results of directions carefully observed.

The pressure of the atmosphere sustaining a column of mercury is due to the weight of air and the moisture it contains. Heat and cold also effect changes in the height of mercury in the tube of the barometer—heat causing the column to rise, and cold to fall, in that instrument as well as in the thermometer; therefore to render observations of the instrument perfect, it is necessary to reduce it to the freezing point by means of the attached thermometer, which indicates the temperature of the mercury in the barometer. Some instruments, like those manufactured by J. Green of New York, are fitted with a mechanical contrivance for doing this, but for common barometers, a table of numbers to be added or subtracted from the observed height, as the attached thermometer indicates a higher or lower temperature, is necessary; else, reading the observed height without applying the reduction the mercury would seem to be rising when actually falling; at times apparently presaging a storm, or standing at rest, when reduction would show coming changes in the weather. Tables suited to various kinds of barometers are published by the Smithsonian Institute. I use the "Woodruff barometer," manufactured by Charles Wilder, Peterboro', N. H., and having noted the results of observations of the instrument, will merely give a few general rules by which I am guided in using

it, and shall be glad if by doing so I may benefit any one. I think—

1. That changes of weather at different seasons of the year affect the barometer differently.

2. That winds from different quarters sometimes have great influence on the barometer, and it should be observed when changes occur in the direction of winds.

3. During the summer months, a slight fall of the mercury is indicative of rain; a continued fall of some days indicates continued rain; a sudden or great fall, heavy showers, of short continuance.

4. There being an average, or mean, between the highest point the mercury occupies and its minimum or lowest, any change below or above the mean indicates approaching fowl or fair weather, according as the mercury rises above or falls below that point.

5. In winter, the rising of the mercury indicates frost and greater cold, or falling snow.

6. Fogs often cause a slight fall of the barometer; the atmosphere being over saturated and containing water in a disseminated liquid state.

Whitefield, N. H., Sept. 27, 1871. L. D. K.

REMARKS.—On behalf our correspondent who made the inquiry that has drawn out these practical suggestions for the use of an instrument with which many farmers have had a rather unsatisfactory experience, we wish to thank "L. D. K.," who we may be permitted to add is one of the observers employed by the Smithsonian Institute.

BLOODY MILK FROM A HEIFER.

A neighbor of mine, Mr. Isaac Smith, who maintains a large herd of dairy cows, has one heifer that has given bloody milk from one part of her udder for six weeks past to a greater or less degree. What is the cause, and how can it be remedied?

Barre, Mass., Oct. 5, 1871.

D. W. H.

REMARKS.—Prof. Law, Veterinary Lecturer of the Massachusetts Agricultural College, in reply to a similar inquiry, remarks, that *redness* of milk has in some cases been traced to feeding on certain plants, for instance madder, and intimates that this may sometimes be mistaken for *bloody* milk. But as only one cow in Mr. Smith's herd is affected, the trouble cannot therefore be ascribed to anything in her food, and probably the milk is tinged with blood. Supposing this to be the case, "what is the cause, and how can it be remedied?" We do not know the cause of the bloody milk in this case. Bloody milk is often caused by the garget, —is often one of the first symptoms or effects observed of that disease. Rough milking, or too much pulling on the teats in stripping, will cause bloody milk, probably from the rupture of some of the delicate veins. Great fatigue, as being chased by dogs or boys; a weak or poor state of the blood; a kick or blow on the udder or adjacent parts; stepping on the udder by other animals, while the cow is lying on the ground or in the stable,—are among the causes that produce bloody milk. It may also occur in connection with Bloody Water, and a tendency to periodicity has been observed in connection with the recurrence of rut or heat. The remedy, then, should be adapted to the removal of the cause, whatever

that may be. If the heifer has been abused by dogs or boys, apply a good hot poultice to them, instead of doctoring her; if she has been milked by stripping her teats between the thumb and finger of a stout man, change that treatment to a more reasonable practice; if caused by poor blood and a weak state of the system, give a nourishing diet, says Dr. Law, with a course of tonics, say, three grains of carbonate of iron and half ounce of powdered ginger, daily for a week. If the bloody milk is the forerunner of the garget, direct your treatment to the cure of that disease the best you know how, or if caused by external injury adopt such preventive and curative measures as your best judgment may suggest.

In many cases of slight trouble of this kind iodine has proved beneficial. Make an ointment consisting of one part of iodine to twelve parts of lard, and rub it in on the parts of the udder affected. For ordinary cases of garget one of our correspondents recently recommended one ounce of Hydriodate of Potassium dissolved in one pint of soft water. Dose for a full-grown cow, one large spoonful, mixed with a little bran mash, twice or three times a day, according to the virulence of the disease. This medicine should be used with caution, as it has a tendency to dry up the milk.

HOME FOR A WESTERN MECHANIC.

I wish to get a little advice in regard to buying a home. I am a mechanic, 25 years old, and have lived in the West about eight years; three years of the time farming, the rest of the time working at my trade. My home at the East was within a few miles of Boston, and old New England will always seem very dear to me. My capital is \$1500, and I wish to know if I can get started on a comfortable home in Massachusetts with that amount. Eastern papers that I see, advertise many desirable places for sale, at what seems to me to be cheap prices and easy terms. I am well aware that the soil of many of these places may be pretty well run out; but can they not, by a good system of cultivation, be made capable of producing good fair crops?

I would like to know the amount of money that it would be necessary to invest in stock and tools on a small farm there for raising ordinary farm crops. I believe that soiling is the system for New England, where tillage land can be had, as the markets are excellent and manure valuable. My objections to a home in the West are several. I have not capital enough to buy an improved farm here, and if I had, the improvements on a western farm are generally anything but desirable,—poor fences, poorly built houses, stables "shingled with straw," and no barns. To get cheap land, I must go where I must deprive myself and family of many privileges; and improving a new place is costly work, especially where money brings ten to twenty per cent. interest, as it does in the new States.

I suppose Horace Greeley would discourage me from turning my face eastward, but I think I won't say anything to Horace about it. An answer to the above in the FARMER would greatly oblige

A BAY STATE BOY.

Wisconsin, June 27, 1871.

REMARKS.—As you and your family are personally strangers to us we have no idea of what would constitute a "comfortable home" to you

here. But if you ever lived "within a few miles of Boston" you must be aware, notwithstanding all the gloss of advertising land agents, that \$1500 will go but little ways towards paying for what is considered a good, well stocked farm in Massachusetts. After living elsewhere for a few years, New England people seem to forget the unpleasant of their old homes here, and to cherish recollections only of what was agreeable. Somehow the past becomes poetry, and distance lends enchantments that are seldom realized on their return. The loved valleys seem narrower; the hills higher, nearer, and steeper; the rocks bolder and more rugged; and the soil thinner and poorer than they remembered them. Were you to return after your experience with the West, we fear you would be disappointed, and perhaps wish yourself at the West again. At least, we have known several cases where the "homesick" instead of being cured was aggravated by a return to New England. Our advice to you is to do just as you think best, with little regard to the opinion of Horace Greeley, the NEW ENGLAND FARMER, or any other man that knows nothing about you.

BARN—BARN CELLARS AND TYING UP CATTLE.

I wish you would inform me through the FARMER what the best way is to tie up cattle in the barn, and give me any hints on points of convenience in a barn and barn cellar?

JOHN N. CORDELL.

Tirerton Four Corners, R. I., Oct. 1871.

REMARKS.—Having tried nearly every way that has been devised for tying up cattle in the barn, we are convinced that the common upright stanchion is, all things considered, the best. It is not so easy for the animal as a chain or the old-fashioned bow, but it is safer, keeps the cattle cleaner, and is the quickest and easiest way of tying them up.

A barn should be constructed to afford the most conveniences for the objects to be gained. If for cattle alone, do not cut it up into small rooms, but leave as much large, open space for stowing away hay, as possible; good-sized bays, running from the floor to the side of the barn. Have as few scullfolds as possible, and let the one over the beam be seven feet high, so that you can walk in it without stooping or bumping your head, if you are standing up. In framing, the carpenter can mortice the floor timbers and let the sleepers fall two or three inches, so that the cattle can stand a little below the level of the main floor. Then feed from the floor before the cattle, which is far better than boxes or troughs of any kind. If they stand a little lower than the floor, they can reach their food easily, and the hay or grain, or meal, can be pushed to them with the rake head. The floor does not become wet or dirty as boxes are apt to.

Have a good cellar under the whole barn, as it costs no more to put a roof over two rooms than it does over one. With a tight cellar, the barn will be warmer in the winter, and will be found very convenient for storing carts, tools, roots, &c., and

also for pigs upon the manure, if the cellar is light and ventilated.

For the want of a little care and foresight, barns are quite often constructed so as not to afford the conveniences which they might, with the same amount of room and the same cost.

LOW LANDS.

This year the hay crop is a small one in New England. Many reports confirm this conclusion, although in this town and vicinity the crop is satisfactory, the fall feed abundant, and the second crop of clover on land recently sown to grass has been mown by myself and neighbors, making quite an addition to the mows.

I have about eight acres of land that lies in the bottom of this valley, [Black River, we suppose—*Ed.*] which is nearly a dead level. There was no channel for a water course, and when the snows melted in spring, or when the heavy fall rains came, the surface drainage of about five hundred acres flowed upon my low lands. I have dug an open ditch through this meadow most of its length, but left a few places not ditched so that the water will flow the whole meadow when it is abundant and not hurry away too rapidly in the ditch.

I find this low land excellent for grass, yielding a heavy crop of natural varieties. One kind called "blue joint," grows five feet high, with a head resembling redtop and a stock like rank timothy. Another kind is a flat grass, apparently without seeds.

I find this meadow a great help in filling the barn, yet I have been very slow in clearing it up. It was covered with alders. I cut, piled and burned them and since mowed the annual growth. A part not thoroughly cleared is in pasture, and some of it is still covered with a growth of ash and alders. My intention is to subdue the whole soon.

In Vermont there are many acres of such land. It is of rich, mucky soil and yields a heavy crop of weeds, bushes or grass. If partially cleared and then neglected a year or two, it looks more forbidding than at first. A fire will seldom run over such land, but every thing must be picked and piled.

My experience teaches me that it pays to reclaim these low lands, as I find that whether the season is wet or dry, I can calculate on about two tons per acre of hay of fair quality. On this meadow the grass roots are so strong that a horse can safely travel on the surface, though beneath is a deep muck bed. The portion pastured comprises about three acres, and I pasture it so close as to prevent its going back into wilderness, while I am waiting for time to clear it thoroughly for the scythe. My cows made \$25 worth of butter from that small pasture. They were put in July 19th, when the weeds and grass were rank and tender. I ought to sow grass seed on this land, being confident it would be better than to trust to nature alone for the seeding. But the proper course is to clean it up. Let those of us who own such land work upon it this fall and improve it, and we shall be better able to meet dry seasons as they come with their blighting influences.

Z. E. J.

Irassburg, Vt., Oct., 1871.

HOW WAS THE FARM IN ESSEX COUNTY MADE PROFITABLE?

The question is often asked, "Does farming pay?" and it is often answered in a general way that it does, and some particular farm is quoted as having afforded a very large income. The last question of this kind that has come to my notice was asked and answered by Mr. B. P. Ware of Marblehead, at the County Fair at Ipswich, the other day. He says that "men had grown wealthy

on the farms of Essex county," and alludes to one that was purchased thirty-five years ago for \$1900, the gross products of which had amounted to \$10,000 per annum.

Now will Mr. Ware give us a history of this farm, its location, the kind of crops that are raised on it, the amount of money that has been invested in it since the first purchase, the cost of carrying it on, and the present value of the farm, so that we may see how much should be allowed for interest on the capital invested. Such is the kind of information that the working farmer needs; not the general assertion that farming pays because somebody has obtained an income of \$5000 or \$10,000 from his farm in a year.

The most of farmers are accused of ignorance of tentimes, and I am sorry to be obliged to say that so far as I am concerned as one of the number, the charge is too true; still it is information that I want, in common with the rest of the working fraternity. Now, Mr. Ware is, I think, just the man to give us the desired information. I know very well that in Mr. Ware's vicinity the advantages are very much greater for farming than in any other part of the county with which I am acquainted. The large quantities of kelp that old ocean's waves are continually casting upon the shore, which cost nothing but tanning, and the location so near the sea gives a season some two or three weeks longer than is enjoyed a few miles farther back. These facts, to my mind, are of no small consideration.

There is much that passes for successful farming that, in my opinion, won't bear examination. I have seen within a very short time the names of gentlemen mentioned as being very successful farmers, who, if I am not mistaken, would be very loath to publish the footings of their ledger, unless they wished to make a display of the amount of money they are willing to invest in their farm, without the remotest prospect of ever receiving a fair profit on the capital invested.

J. L. HUBBARD.

Peabody, Mass., Oct. 10, 1871.

THE FOOT POTATO.

While at my place last year your agent requested me to furnish you with a statement of my experiment in planting the eyes of a single tuber of the Foot potato. I planted them where my hens got at them and destroyed perhaps one-fifth of the crop, obliging me to dig them Sept. 6th, before they were fully grown. The yield secured was 106 pounds. I think they cannot be beat in excellence of quality.

N. HALL.

Canaan, Me., Sept. 15, 1871.

WILD CHERRY IN A PASTURE.

I think the true theory respecting the poison of wild cherry, is, that both the perfectly fresh leaves and the thoroughly dried ones are harmless, while in leaves in a *wilted* state the prussic acid is much more active, producing injurious and often fatal effects. I have known two instances where valuable animals have died in consequence of eating cherry branches in this half wilted state.

C. N. S. HORNER.

Georgetown, Mass., Sept. 9, 1871.

STACKING BEANS.

I have tried your plan for drying beans by stacking on poles, with side branches left projecting a foot or more, with satisfactory results; but last year hit upon a plan I like still better. I have a light scaffold in the roof of the barn; to this the beans were taken when first pulled, and set in small bunches roots up. Windows were usually open in each end of the barn in fair weather. In this way they dried perfectly.

North Weare, N. H., Oct. 2, 1871.

For the New England Farmer.

HARD TIMES FOR FARMERS.

The times are very discouraging to most farmers at the present time. A short hay crop and the continued decline of prices for his other products, especially live stock, must more or less affect the farmer's tranquillity, if it does not even utterly discourage him and cause him to feel like giving up his calling or changing it to a more favored locality, if he can find it—which I very much doubt.

During the farmer's most prosperous times he fails to obtain as remunerative returns in money for his investment of capital and labor as those in other callings usually realize for theirs; and when such a decline in prices as has occurred in farm stock during the last fifteen months comes upon him, his lot is to be commiserated. If such a decline in merchandise had occurred, we should probably have seen such a financial crash as we have not witnessed in two score years last past. Very few merchants and manufacturers could withstand a decline of from forty to fifty per cent. on their goods and products; yet the farmer has had to submit to this, and stand it, too, in some way.

He has not learned the art of *compromising* with his creditors for twenty-five or fifty cents on the dollar. He expects, come what will, to pay dollar for dollar on what he owes. He will sit down to a very limited bill of fare, deny himself on every hand and work persistently and hard to bridge over, if it is possible, the chasms of insolvency and pay *all* his liabilities.

Not so the merchant. He makes the very best terms he can with his creditors, after exaggerating his indebtedness in order to secure to himself all that it is possible for him to do, and to pay to his creditors as little. Very few intend, however prosperous in after life, and however great their accumulation of wealth may be, to pay off their *old scores*, as they term them—no, not they—but the farmer *must* pay the last mite and be turned adrift to get a living as best he can, should he be embarrassed in his business for want of ready means to meet his liabilities. No compromise in his case. The pound of flesh is exacted.

It is an unpleasant picture, and we will turn away from it and see if we cannot find some alleviation from the weight of discouragement that at present surrounds us. It is a trite saying, and as true as trite, that where there is a will there is a way. A determination made in the proper spirit to surmount difficulties is often more than half accomplishing the sought-for object. The question now is, what can farmers do with their stock that have not sufficient hay and other feed to carry them until grass-growing another season? At the present low price of cattle it would be, financially, suicidal to sell it. That being so, the next question is, how to keep it so as to secure a new

cent for an old one, and some show of profit besides; for unless there is a chance for a profit it is of no use to carry the stock, but submit to the present loss at once.

How this can be done I think is most satisfactorily shown in an article you gave us on the 16th ult., written by S. L. Goodale, on Corn vs. Hay. In my opinion it is the most valuable contribution the farmers of New England have had placed before them for a long time. It tells them what to do and how to do what is necessary to meet the present emergency in their affairs. It is indeed difficult to conceive how any thing more concise and yet embracing the whole question, could be set before us. I would advise every one interested in feeding stock to ponder its suggestions well and see if they cannot find it for their interest to carry out some if not all its suggestions.

As a supplement to Mr. Goodale's article, I would recommend saving all the corn fodder in good order, cutting it fine and feeding with wheat bran, shorts or corn meal. I have known large stocks to be wintered and also carried through the spring in good order until grass grew.

For several years I used a hand machine, constructed on purpose for cutting corn fodder, and found time on stormy days to keep a supply on hand for use when the weather allowed outdoor work to be done.

Sgt. 20, 1871.

K. O.

For the New England Farmer.

FRAMINGHAM FARM NOTES.—No. I.

BY A. A. FORBES.

This town has long been noted for its enterprising farmers, men of means and energy, who spare no pains or expense in improving their farms and their stock. I propose to send you a few notes of observations made among them, which may be of interest to the readers of your paper.

Sturtevant Bros.

These gentlemen own a large farm situated about half a mile south of the village of South Framingham, which they have occupied for six or seven years, and which they have greatly improved in that time. Their barns are large and convenient, and are furnished with power for watering stock, cutting feed, &c., by means of a windmill of the "Continental" pattern which works admirably. They make the breeding of Ayrshire stock a specialty,—their large stock being entirely of that breed,—most of them being imported within the last two years. The specimens which they exhibited at the late Fair of the Middlesex South Society attracted much attention and received most of the premiums awarded to this breed at that show.

The bull "Malcom," now eight years old, is of most excellent stock and won himself honor at the New England Fair, through a son

and daughter there exhibited,—both sweep-stake animals. He is dark brown and white, has a head too large for beauty, though characteristic of the family, and skin of remarkable clearness. His son McMalcom much resembles him, and though the property of J. R. Kendall of Woburn, was bred by the Messrs. Sturtevant, and is now with them on loan for a few months.

Another bull "Imported Mains," is nearly white. "Queen of Ayr," his dam, is red and white, and is stated by the owners to have given 9014 pounds of milk the year after her importation.

Of the eight cows exhibited at the late Fair, seven were grazing in Scotch pastures a little more than two years since, and they have all the characteristics of choice Scotch animals. It is well known that in the home of the Ayrshire, the udder is a chief point of interest. It is required to be square, capacious, well forward, and full, as looked upon from behind. But this is not sufficient,—the cow of this dairy breed must not only show an udder perfect in form, but a capability in the animal to fill it with a rich quality of milk.

"Model of Perfection" (a name given in Scotland under which she won many premiums at home,) has the model udder, which Ayrshire farmers admire. She cost Messrs. S. \$1,000, and this will give some idea of their appreciation of her quality.

The cow "Georgie," has different excellences; is more delicate of form, less symmetry, but a certain air that makes many prefer her to "Model."

The four other cows which I will not specify by name, are splendid animals, and creditable specimens of this breed of cattle. The two-year-olds, yearlings and calves, of which they possess a large number, are of good promise.

The herd of Messrs. S. are not in high condition, but appear in just the state of flesh we should expect to find in a herd occupying the stalls of a good dairy farm. These animals are considered by their owners too good to be styled "fancy," and they dislike that term to be applied to really useful stock.

Though Sturtevant Bros. make a specialty of Ayrshire, they by no means confine themselves to this branch of business. "Excelsior" is their motto in every department.

The limits of this article will not permit me to speak at length of the other stock upon their farm. I will only say that Messrs. S. are extensively engaged in the Poultry business, having a large number of the improved kinds, and took the first premium at the late Fair for the best ten coops of Fowls.

—California boasts that she has the largest orchard in the world. It is located two miles south of Yuba city, in Sutter county, and consists of over 400 acres.

TOWN FAIRS.

There is much to be said in favor of town fairs. They begin, where all government of republican form professes to begin, with the people themselves. They are managed honestly and economically, and the premiums are awarded to the most deserving, without fear or favor. The farmer competes with his neighbor farmer, instead of the importer of fancy cattle, or the nurserymen or green-house men, or some wealthy speculator's English gardener. Everybody, at a town fair, feels that he has an equal chance, and is encouraged to do his best this year, and if his neighbor excels him now, may readily learn the reason, and improve his own practice.

We were forcibly impressed with these ideas at the seventh exhibition of the Agricultural Society of Chester, N. H., on the 3d of October. Chester is one of the famous old towns of the Granite State, which has been in times past the home of two governors, a chief justice, a senator in Congress, and two or more judges, as well as of the gallant General Bell, who fell at Fort Fisher.

The high culture of the people a half century ago naturally led them to take an interest in the improvement of their stock, their gardens and their orchards. The town has been long famous for its fruit culture, and the sale of apples has been always a source of great profit to the farmers.

The fine shade trees which shelter an excellent sidewalk for more than a half mile on the principal street, and which surround most of the houses, show at once that the citizens have found time and means to do something more than earn a bare subsistence, and the exhibition of this year indicates clearly that the present inhabitants intend fully to sustain the reputation of their good old town.

Although the skies were threatening, it was evident at a glance that the most of the population of the town, with many persons from abroad, had taken an early start for the fair. A team of forty yoke of oxen, many of them large and excellent, formed a prominent feature. They were attached to a wagon in which Bond's Band, from Boston, took a short excursion, discoursing excellent music. Mr. Bond, the leader of the band, is a native of Chester, and took an active interest in the occasion. Some excellent cows, some fine young

Devon cattle, and good specimens of swine, sheep and poultry were among the outdoor attractions. The crowd was, of course, soon gathered about the music wagon, and the people began at once to exercise their inalienable right of hearing speeches. Mr. Adams, of the *Manchester Mirror*, was requested to mount the wagon, and he entertained the audience with his usual good sense and humor for a few minutes. The editor of the *NEW ENGLAND FARMER* was next called out, and then Judge French, who is also a native of Chester, greeted his old townsmen with some cheering remarks. The crowd cheered the speakers, the band struck up "Auld lang syne," and we adjourned to the town hall to see the rest of the exhibition. The show of fruit was excellent, the apples, pears and grapes being equal in quality to any we have seen at any county show. The town is peculiarly adapted to the grape, being situated upon the highest elevation between the ocean and the Merrimac river.

Although in most places on our drive across the country from Concord, Mass., we had observed that the grapes were ruined by the frost, we found the leaves at Chester were still as green as in August, and the fruit safe on the vines, probably for some weeks. The Isabella usually ripens perfectly on these hills, and the tables have as fine bunches of the Concord and Delaware as we have ever seen. A prominent feature of this exhibition was found in the assortment of garden seeds, nicely cleaned and arranged and labelled. This is an element of our agricultural exhibitions which should everywhere be fostered. The importance of good seed grown by responsible persons cannot be overrated.

Among the excellent vegetables we noticed several varieties of seedling potatoes. One which was marked "Chester Seedling," four years from the seed, very closely resembles the Peerless in size and shape. It has, however, reddish eyes, and is said to be later. It may prove a very valuable sort.

The show of vegetables was very full, the only criticism which occurred to us being that they were too large. We are always gratified to see, side by side with the mammoth products, specimens of convenient, useful size for every day table use. The ladies contributed a beautiful variety of needle-work and wax flowers, as well as of dairy products. Indeed, we were glad to see the ladies everywhere present and

active at the tables, and in the dining-room, over which they presided in an upper room.

In the evening the hall was again crowded almost to suffocation, and the standing audience listened attentively to the voices of various speakers, and the music of the band, till the President, at nine o'clock, announced the close of the fair.

ORCHARD GRASS.

Among the many interesting articles which were exhibited at the Attleboro, Mass., Fair, which we examined, but failed to notice in our brief report of that exhibition last week, were six specimens of Orchard Grass, or "Rough Cocks Foot," grown this year by A. W. Cheever, Esq., Sheldonville, who at the close of the exhibition there, very kindly sent them to this office, where they can be examined by any one interested in this grass, who can make it convenient to call.

On the 11th of April, 1871, Mr. Cheever seeded a piece of land with Orchard Grass, at the rate of two bushels of seed per acre; the seed weighing fourteen pounds and costing \$3 per bushel.

A specimen of this grass which was cut July 1st, is labelled No. 1. It is from two to two feet and six inches in length, has a "rowen" look and is quite fragrant.

No. 2 is from hay made on this field from grass cut from the 1st to the 7th of August. The leaves are wider than those of No. 1, the stalk more fully developed, and to the touch, as well as to the eye, it is a little rougher and coarser, but still excellent hay.

No. 3 is a specimen of second crop, cut September 18, on the part of this field that was mowed August 1. This is about two feet in length, and considerable clover in the blossom is mingled with it. It is as sweet as a rose. And just here, perhaps, is one of the long-sought-for secrets of gilt-edged butter, and one of the reasons why Mr. Cheever has taken so many first premiums on butter at the Fairs in his county, and why he is able to secure customers for all he makes at prices considerably above the market rates.

To contrast with this early-cut grass he exhibited three specimens that had gone to seed.

No. 4 is a sample of Orchard Grass cut June 20th, on land that had been mowed three years. It is headed out and is from two feet to two feet six or eight inches high.

No. 5, sample of the same cut July 1. This also had gone to seed, and is somewhat taller than No. 4.

No. 6 consists of a few stalks that grew in a rich hollow by the side of the road, cut July 1st. It is from four to five feet six inches high, with stalks better adapted to sucking cider than to cattle fodder.

Though none of the three last named samples were cut later than July 1st, and one of them as early as June 20th, yet all of them had stood quite too long, as they look more like parcels of straw than like the fine grass hay of Nos. 1, 2 and 3. Mr. Cheever remarked that they should have been cut as early as the tenth of June.

These samples illustrate better than could be done by any mere statement, the early maturity and other peculiarities of this grass, and suggest reasons for the different conclusions as to its value at which different farmers have arrived who have tried it. The early maturity of this grass, as shown by these specimens of it that were over-ripe on the 20th of June, unfits it for cultivation as hay with varieties which ripen several weeks later, and is a peculiarity that should not be overlooked.

CORN FODDER.

Mr. L. A. Gilbert, says in the *Maine Farmer*, that he has grown corn for a dozen years or more, and fed it to his cows as the pasturage failed in August and September, and thought he knew that the flow of milk corresponded with the amount of green corn, whether large or small. But as some of his neighbors did not believe it was worth raising, and as Dr. Loring, "the man who can make three hundred and sixty-five speeches in a year, and withal say a great many good things," denounced it as the most worthless stuff ever fed to cows, he determined to test its value more carefully. He gives the following statement of two experiments:—

August 9th, a two-year-old heifer in milk was then being fed at night, after running in a pasture where there was but little feed, with a feed of poor hay and two quarts of barley meal. The daily average yield of milk was nine pounds thirteen ounces. The hay and meal were dropped off and a feed of green corn substituted. The amount of corn was not weighed, but was a moderate amount weighing probably fifteen to twenty pounds. After two feeds of corn, the milk weighed ten pounds six ounces per day and remained at about those figures as long as weighed.

As cow at the same time was running in the same pasture, and received a feed of the same quality of hay, but no meal. Her daily average quantity of milk was nine pounds three ounces. After two feeds of corn it increased to ten pounds fourteen ounces, and remained at about those figures.

For the New England Farmer.

A CHAPTER ON WOUNDS.

Farmers, and the several domestic animals with which they have to do, are liable to suffer from wounds of various kinds, and it is highly important that every person should understand the best methods of treating them.

Wounds are called *incised, lacerated, contused, punctured, poisoned, or gunshot*, according to the manner in which they have been produced, and the nature of the cause which has produced them. These several varieties require different treatment, to a certain extent, but whether occurring in man or beast it should be the same.

INCISED WOUNDS are those caused by a simple division of the fibres with a sharp cutting instrument. In such cases, the lips of the divided parts are more or less separated, according to the extent of the injury, and the surface is covered with blood.

In the treatment of incised wounds, there are four indications to be fulfilled: 1. To arrest the *hemorrhage* or flow of blood; 2. To remove foreign bodies if there be any within the wound; 3. To bring the divided parts into apposition, and keep them in union; 4. To promote adhesion.

To arrest the hemorrhage, moderate pressure, an elevated position of the wounded part and the application of cold water will be sufficient in most cases. But if the bleeding prove obstinate, other measures must be adopted. And now this important question arises: does the blood come from an *artery* or a *vein*? When arteries are punctured or divided, the escaping blood will be of a bright florid color, and will flow rapidly in jets; but when veins are divided it will be of a much darker color, and will flow less rapidly, gradually filling the wound.

If then, an *artery* has been injured, no time should be lost, but the bleeding vessel must be *compressed* without delay; and the best method of doing this will depend on the part of the body or limb in which the wound is situated. If the injury is below the middle of the upper arm, or the middle of the thigh, the compression can best be made by means of a *ligature*, which may consist of a handkerchief or a cord of almost any kind; this should be passed once or twice about the limb and tied securely. A stick may then be passed beneath the ligature and twisted until the flow of blood is arrested. It should be remembered that when an *artery* is wounded, the ligature must always be placed *above the wound*; that is, between the wound and the heart, because the arteries carry the blood from the heart to the extremities; and if the wound be below the elbow or the knee, the ligature should be applied *above those joints*, because that below them are *two bones* which protect the arteries against compression, whereas above them there is but *one bone*, and therefore the blood vessels are more easily compressed. But if the wound is situ-

ated high up on the arm a ligature will do no good, and therefore a bystander should at once press his thumb firmly into the neck *behind the middle of the collar bone*. This will arrest the flow of blood through the great artery of the arm as it first comes out of the chest. But as it will not be possible to continue the pressure for a long time with a sufficient degree of force, simply with the thumb, the *handle of a door-key* or some such article, should be wrapped in three or four folds of linen and used in place of the thumb. In this way the hemorrhage can be kept in check until a surgeon can be obtained. If the wound be high up on the thigh, compression should be made by means of the thumb or a key *immediately below the crease of the groin*, where the beating of the artery may be felt as it passes over the bone. If the wound be situated on the skull, upon the face, or over any bone of the body, the bleeding may generally be arrested, for a time at least, and sometimes permanently, by pressing the thumb, a finger, a cork or any other firm substance that can be conveniently applied, directly upon or near the wound. But if the blood comes from a *vein*, the compression, if any be needed, should always be made *below the wound*; that is, between it and the end of the limb, because the veins convey the blood from the extremities back to the heart. However, in most instances in which small veins are wounded, a little pressure and the free use of cold water will stop the hemorrhage. Various articles called *styptics* are sometimes used to check excessive bleeding. The tincture of muriate of iron, a solution of alum or of copperas, and creosote are among the best styptics.

The removal of foreign bodies should be done as soon as possible. Dirt, gravel, &c., are best got rid of by affusion with water; but most other substances can be removed best with the fingers. All clots of blood should likewise be removed, or they will act as foreign bodies and prevent adhesion. In order to bring the divided parts into apposition and keep them in union, strips of adhesive plaster are best, when the wound is not very deep nor the sides of it much disposed to separate; but when there is considerable depth to the wound and it is disposed to gape, stitches—*sutures*, in surgical language—should be employed; and for such a purpose, farmers and others who keep domestic animals should also keep on hand one or two curved surgical needles.

To promote adhesion nothing is needed but to keep down inflammation, and that is best done by rest and the moderate application of cold water. The popular idea that a wound will not heal without the assistance of some wash, liniment, ointment, or salve is pure nonsense. Wounds are healed by virtue of a law of nature, and such applications, while they can do no good, may do much harm.

LACERATED WOUNDS are those in which the skin and other tissues are more or less torn and displaced. They bleed much less than incised wounds, but in other respects they are far more serious, being more liable to inflame and slough and occasion constitutional disturbance.

The treatment should consist: 1. in restraining the hemorrhage by the several means recommended for incised wounds; 2. in removing all foreign bodies; 3. in bringing the parts together as well as may be, albeit there should be no straining with plasters or tight bandages. A cloth dipped in cold water, or a soft poultice, or a poppy fomentation, may be applied to the wound, according to the feelings of the patient; and rest, a low unstimulating diet, and a proper attention to the bowels, should be strictly observed.

CONTUSED WOUNDS are caused by some blunt instrument, applied with such a degree of force as to break down and destroy the vitality of the tissues. The process of restoration is, therefore, quite different from that which takes place after incised and lacerated wounds. Inflammation, to a considerable extent, must be produced; *sloughing* or the separation of dead parts by a process of ulceration will take place, and granulations will arise to fill up the cavities occasioned by these separations.

The treatment of this class of wounds should consist in facilitating the separation of the contused parts by fomentations, poultices, and the like, until the sloughing or separating process is completed; and then the fomentations and poultices must be abandoned, and the parts approximated by adhesive plaster. The wound should now be dressed with *simple cerate*, or a salve composed of *resin*, five ounces: *lard*, eight ounces: *yellow wax*, two ounces. The bowels should be kept regular, and if the constitution becomes much debilitated, wine and other tonics, with a generous and nutritious diet, must be employed.

PUNCTURED WOUNDS are such as are caused by sharp pointed instruments, like needles, nails, bayonets, &c; and are justly esteemed the most dangerous of all simple wounds. Their treatment should consist in arresting inordinate hemorrhage, if it exists, by the means already described, or by plugging the wound with lint, rags or other similar substances; and in the prevention of inflammation by rest, a plain simple diet, purgatives, cold affusions, &c. If, however, as is frequently the case, there is much severe pain, *warm water* or *vapor* will be the best local application until the pain has abated.

POISONED WOUNDS are those caused by the sting of bees, wasps and other insects; the bite of the rattlesnake, copperhead, and other venomous reptiles; the bite of mad dogs, and other rabid animals; and the pricking or cutting of the hands with knives and

other instruments used in the dissection of dead bodies.

For the sting of bees and other poisonous insects, cold wet clay, a piece of moistened tobacco, or a little diluted aqua ammonia, are excellent remedies.

For the bites of serpents and other venomous reptiles, the first thing to be done is to apply a *ligature* tightly about the limb as near to the wound as possible, and *between it and the heart*. Then cut out the bitten part, and suck the wound, bathing it freely to encourage bleeding. But if a *cupping-glass* be at hand, that instrument should be applied over the wound for a few minutes, when it must be taken off, and the bitten part removed with a knife. The glass should then be re-applied, in order to promote the flow of blood. The internal remedies proper in such cases, are powerful stimulants, such as brandy or other spirituous liquors, ammonia, &c.

GUNSHOT WOUNDS are such as are caused by the discharge or bursting of fire arms. They combine the characteristics of both contused and punctured wounds, and should therefore be treated on the same general principles.

It is not presumed that every person will regard himself as competent to treat all sorts of wounds in the human subject. None but educated surgeons should attempt to manage those of a severe character; and yet, all persons ought to know what are the general principles of treatment, and what to do in an emergency; and all farmers should be qualified and prepared to treat successfully the wounds from which their domestic animals are liable to suffer.

J. H. STEDMAN.

West Brattleboro, Vt., 1871.

LATE SWARMS.

Every bee-keeper who allows his bees to swarm naturally will have more or less late swarms—swarms that will not gather sufficient honey to winter on. If such swarms are hived and not run back into the parent stocks, they will of course make several cards of comb, gather a small amount of honey, and the queen will lay more or less eggs. Hence in the fall there will be some brood in the combs, some honey, and all the requirements on a small scale for the building up of a good colony: but the honey harvest being past, they cannot labor, and must all perish during winter.

The question is—what is the best way to dispose of the late swarms? Some will say they should always be run back into the parent stocks; but it is not always done. The bee-keeper has been exceedingly busy, and has found it less trouble to put them into an empty hive, and when fall comes he has several stocks in the condition described above. Others would advise the taking up of such stocks and using the honey; but the small amount of honey will not pay for the waste of

comb. Others again would drive out the bees, and put them into some other stock that is weak in numbers, and save the hive and comb for next season's use; but the combs being more or less filled with young brood, which will in that case die in the combs and putrefy, they are at a loss how to dispose of it.

No doubt this last is decidedly the best plan, and where frame hives are used, the brood may all be got rid of without difficulty. All that is necessary is to take away the queen, and leave the bees queenless for twenty days. The brood will then all hatch out, when the bees may be driven out and put into some stock having plenty of honey, and the hive and combs placed in some outhouse where it is perfectly dry and cold, where the combs will become frozen during winter, which will destroy any egg or larvæ of the moth that might be in them, and next season the combs will be of great help to new swarms, and of far more value than all the honey and wax that could be got out of them. Even common hives may be served in the same way by driving out the bees, capturing and killing the queen; then return the bees, and wait as before. It is not absolutely necessary to wait twenty days, as most of the brood will have hatched in twelve or fifteen days, so that it would be safe to remove the bees and put the hives away for next season's use.—*J. H. Thomas, in Canada Farmer.*

FALL TREATMENT OF BREEDING EWES.

If the ewes have been at all reduced by suckling their lambs through the Summer, immediately after their milk has dried up efforts should be made to regain a thrifty condition by the time the coupling season commences. A sufficient reason for this is, they can be wintered easier and cheaper if put into high condition before the extremely cold and stormy weather begins. But additional reasons are to be found in the fact that they will take the ram more readily, and be more likely to get with lamb—no inconsiderable item if choice rams are used, and it is desirable to get as much service from a single animal as possible. They will shear heavier fleeces the following season, with better length and strength, than if stunted “from grass to corn.”

No matter how good the pasturage, we have found it profitable to feed them one-half to one bushel of corn daily to each hundred breeding ewes, for ten days before, and during the coupling season. This was usually thrown to them in the ear, when they were through grazing, or just before sunset. We preferred this time, as the stronger animals were not so likely to injure the weaker ones by crowding, or themselves by over-eating. Under such treatment, we have from a flock of a thousand ewes, picked out and bred as many as four hundred the first week. Following

this course, lambs will drop the following Spring as fast as any sheep-farmer, with but ordinary facilities, can properly care for them. “Teasers” put into the flock every morning, before turning to pasture, will, in a short time, find most of the ewes that are rutting. These can be packed out by the shepherd as fast as found, and placed in a separate pen, to be attended to while the large flock is grazing. The animals that have been bred, should be marked and kept to themselves until the entire flock has been served. This saves much labor and annoyance to both shepherd and sheep.

We have always had the best “luck,” during the lambing season, with the flock that was in the highest condition in the Spring—losing the fewest ewes while yearning, and the fewest lambs from lack of milk or refusal of dam to “own” them. And so it will be found, we doubt not, with flock-masters generally. Not only are the lambs from such ewes worth double as much as the increase from a flock dragged through the winter in a half starved condition, but they will not require half the labor and attention to bring them to maturity. Uniformity in the size of the different animals in a flock can be secured in no other way so readily as by liberal feeding and proper attention during the coupling and yearning seasons.—*West Rural.*

SHEEP-HERDERS IN CALIFORNIA.

In an article giving an account of the great sheep runs of California, the *Western Rural* says that the Sheep-herders, or those who have the care of those large flocks, are, as a class, the most worthless, morally and socially, the most unprincipled, reckless and collapsed company of vagabonds to be found in any civilized country, unless it be Australia. One man had employed, in a single year, a bishop's son, a banker, a civil engineer, a priest and a bookkeeper as shepherds, all of whom had been banished by their friends or by themselves for their “country's good.” Altogether they are the riff-raff of the world; vagrant miners, who gamble away their month's wages as soon as they draw the same; runaway sailors from ships in San Francisco, who sell their blankets for a pillow case full of biscuits, and then get never a pinch of grub for two days; measly, old, groggy soldiers, who fall asleep under a live oak, and let the coyotes pull away a lamb. The good old Bible word “Shepherd” is not heard in California, it is either “wool-grower,” “ranchero,” or that most cumbersome and absurd “sheep-raiser;” and for the man who does the work, he is a “sheep-herder.” And when a man gets so low down as to be a “sheep-herder” in California, he would better go and dig a hole in the ground, insert his head therein, and ask some pitying friend to cover it up. He is lower than a Greaser, for this is the Greaser's natural posi-

ness that he was born to, and he is, therefore, respectable. Greasers and vagabond sailors together have brought the same contempt on sheep herding here that the "niggers" have on all manual labor in the South.

EXTRACTS AND REPLIES.

BAROMETERS.

From the good old days of John B. Russell, Thos. G. Fessenden, Geo. C. Barrett, &c., I have been a subscriber and reader of your weekly, which is always looked for and eagerly perused. Very seldom do we see in it anything which is not readable and instructive. Now I ask leave to suggest to you to invite some one who is capable and experienced in the matter, to write a code of plain and simple rules for observing the variations of the barometer, so that every one who feels an interest in such things may know how to anticipate approaching changes of the weather. Farmers, every one of them, ought to have in their house a barometer and thermometer just as much as a clock, and should understand the use of them as well. A few simple rules easy to be understood by the common people, would induce almost every resident in the country to possess one of these useful instruments, which might in the course of a year save them many times its cost. M.
Lauderdale, Mass., 1871.

REMARKS.—Directions for the guidance of those who use barometers have been published; but if any one can, from his own experience and observation, furnish any more practical and simple rules and directions than those which usually accompany good instruments, or which are to be found in ordinary works on meteorology, we shall be happy to communicate them to the public.

TOMATO WORMS.

Are those large worms found on tomato vines poison if they bite? This question has been raised of late by finding them on my own vines, and learning that they were very numerous in this vicinity, and that much fear exists by reason of a general impression that to be bitten by them is certain death. There is a prevalent notion that these caterpillars throw a spittle which, if it comes in contact with the flesh, is equally poisonous.

While at the New England Fair, last week at Lowell, I saw a collection of insects by H. M. Hutchinson, of Lowell, Mass., and in conversation with him was shown the moth said to be the mother of those worms. I remarked that we were finding them very plenty on our vines, and that many feared that we should be bitten by them. Mr. Hutchinson replied that they were not poisonous; that he had handled "bushels of them;" they never bite, but do throw a juice or spittle, which he had received on his hands and even on sores on his fingers, but never was poisoned by them. He said that he knew a man that had eaten them to prevent starvation. He also said that there was a small fly, of a green color, I think he said, found on tomato and potato vines that was poisonous, the bite of which had been mistaken for the worm. Now if those worms are not poison, and never bite, it ought to be known, as it would relieve many from cruel fear and anxiety lest themselves or their children be bitten by them. Shall we have this subject investigated? ALEX. S. PHELPS.

Sharon, Vt., Sept. 11, 1871.

REMARKS.—Your friend, Mr. Hutchinson, is undoubtedly correct as to the harmlessness of the to-

mato caterpillar. "Worms," toads and snakes are much abused creatures. They are badly slandered and much disliked by almost every body, while birds are popular favorites. Yet they are all God's creatures, and, notwithstanding our prejudices, each performs its appointed part in the economy of the universe.

About two years ago the *Syracuse, N. Y., Standard* published an article on the authority of a certain Dr. Fuller, of that city, in which it was stated that:—

"This worm was first discovered this season, and is as poisonous as the bite of a rattlesnake. It poisons by throwing spittle, which it can throw from one to two feet. The medical profession is much excited over this new enemy to human existence. Three cases of death in consequence of this poison have been reported."

This statement made a capital sensation item for the newspapers, few of which stopped to question its truthfulness. In the first place this caterpillar has been well known to entomologists for about half a century. It is described by Harris. It belongs to the *Sphinx* family, and we suppose it to be the caterpillar of the Five-spotted Hawk Moth figured in the *FARMER* of August 26.

The following remarks by Benj. D. W. Walsh, editor of the *American Entomologist*, may serve to allay the "cruel" and perfectly unfounded fears and anxiety to which our correspondent alludes: Dr. Walsh says, "Why or wherefore it is impossible to say, but this poor unfortunate tomato-worm has been selected by the popular voice, out of about fifty others belonging to the same family and found within the limits of the United States—all of which have a similar horn growing out of their tails—to be falsely accused of using this horn as a sting. The tomato-worm and the tobacco-worm are as like as two peas, and produce moths which resemble each other so closely that entomologists for a long time confounded them together. Each has exactly the same kind of horn growing on the hinder extremity of its body; yet while the tomato worm is generally accused of stinging folks with this horn, nobody, so far as we are aware, ever yet said that the tobacco-worm would or could do so. The real truth of the matter is that neither of them can sting, either with its tail, or with its head, or with any part of its body. Yet not a season elapses but the newspapers publish horrible accounts of people being stung to death by tomato-worms, and earnestly recommend those that gather tomatoes to wear heavy buckskin gloves. These stories, however, have been contradicted so flatly and so often, that latterly the penny-a-liners have struck off upon another tack. Tomato-worms, it appears, do not sting with the horn that grows on their tails, but they eject with great violence a green caustic fluid from their mouths to a distance of from three to fifteen inches! Now what is the real truth about this matter? Tomato-worms do really discharge from their mouths, when roughly handled, a greenish fluid, and so do the larvæ of almost all moths, and so does every species of

grasshopper with which we are acquainted, and so do many different kinds of beetles. But it is not true that they can spit out this fluid even to the distance of a quarter of an inch, much less to the distance of fifteen or even of three inches; and especially it is not true that the fluid is poisonous. If it were so, we should have been in our graves long ago; for we have had it repeatedly daubed over our fingers, but without the least ill effects therefrom, and so have scores of other entomologists in this country."

Of the green fly spoken of by Mr. Hutchinson we have little knowledge. S. Hayes, M. D., of Saranac, N. Y., published a statement of a patient of his who was bitten on the thumb while handling tomatoes, by a green fly, which caused the thumb to swell as large as three or four thumbs, the swelling extended to the hand, arms, glands in the hollow of the arm, and finally to the head, and even the side of the body, causing much pain. The insect had a long bill and legs something like a mosquito. The bite of a mosquito has occasionally caused much inconvenience.

WHAT AILS THE FRUIT TREES.

The query of your correspondent in the *FARMER* of August 19, suggests a longer communication than I have time to write, or probably you the patience to publish. Nearly a quarter of a century of fruit culture has convinced me that our system is, at least a great deal of it, utterly at war with vegetable growth.

Take for example a pear tree, as bought and delivered, naked trunks from two to four feet high, a shining mark for disease. All should *branch from the ground*. I believe it to be impossible to keep a tree with a long naked trunk healthy for any considerable length of time. Probably not one fruit tree in ten is properly set; *i. e.* the ground in proper condition to receive the tree. Then add to this neglect, with one or two years' over stimulation, and we have all the elements necessary to kill anything that grows.

The object sought in planting a fruit tree, is to get fruit, and a *system* is as essential in this connection as in any matter of business. We must watch and wait. After planting, the tree should be sustained by judicious application of compost; very *rarely* should the knife be used, and the saw as often as it is on the human family, and for like reasons. A tree under the most favorable conditions for its perfect development will continue to grow until it arrives to a certain size, say twelve to eighteen feet, the variety governing this to some extent, without showing a strong tendency to fruit. This growth should be encouraged. Be sure and get at least nine inches of new wood every year. Sometimes it will be four times that, *but get the growth*. Neglect will throw it into fruit. This normal growth is the strongest guarantee of life.

Trees are no exception to the law that governs growth in all things. They must grow or die. If a young tree sets its fruit, pick it all off, or leave one or two for a specimen, if desirable. *Let the tree grow*. When it is in a condition to properly ripen the fruit, the indication will be plain to almost every one. Nearly all trees are benefited by thinning the fruit, say from one-third to one-half. It improves the size and quality in a wonderful manner, and this means pleasure to the tongue, and money in the pocket, if the fruit is sold. Plant a small, low branched tree, in well prepared soil, give it as good care as you do your vegetable gar-

den, though not as much stimulation, and my wrod for it, you will not be troubled to any great extent with dead limbs. L. W. PUFFER.

North Bridgewater, Mass., Sept. 4, 1871.

HOW TO GET RID OF ANTS.—*The Boston Journal of Chemistry* gives several plans of getting rid of ants in gardens; entrap them by means of narrow sheets of stiff paper, or strips of board, covered with some sweet sticky substance. They will then be attracted and will get stuck fast. When you have caught a goodly number you can kill them and set the trap again. Or lay fresh bones around their haunts; they will leave everything else to attack these, and when the bones are well covered with them they can be dropped into boiling water. If you wish merely to drive them away (with the prospect of having them settle elsewhere within your own borders) a few spoonfuls of coal oil put into their retreats or a few slices of raw onion buried there, will be taken by them as a strong hint to migrate. If ants are troublesome in the pantry, or other parts of the house, wet a sponge with sweetened water, and when a large number of ants are in it, throw the sponge into hot water and squeeze it out. Then wet with sugar water again, and go on so.

CHESS.

The growth of chess among winter wheat has long been a mystery to me, and I have endeavored to watch as closely as possible the circumstances of its production. Some four years ago, as I said in my last communication, my wheat crop was nearly a failure. Believing that what little I had, although very poor, would answer for seed, I sowed it by the side of good seed; supposing that if the yield from the poor seed was not as great as that from the good seed, there would be no more chess in it. In this I was disappointed. There was much less chess among the good seed than among the poor. This satisfied me that chess is more likely to grow from poor than from good wheat seed. I have also noticed that where I have sown wheat on green sward there was more chess than when after corn, because, as I suppose, the compost applied to the green sward is not evenly spread, and the turf not being decomposed, some of the plants do not get hold of the needed nourishment, for a proper growth of the plant in the fall, and, something like a stunted calf, it is not fully developed, and turns to chess. Another cause of wheat becoming chess is the freezing and thawing of the ground in fall and spring, which by weakening the roots checks the growth so far that chess instead of wheat is the result. The present season I have more chess than usual among my wheat, which I ascribe to the warm spells last winter and spring, followed by sudden freezing; much bare ground; little rain, and a cold spring, causing the abortive growth of the wheat that results in chess.

From my own experience, then, I would advise farmers to sow the best seed they can obtain. Chess ground with wheat gives the flour a dark color. After running my wheat through a winnowing mill, I take the wheat in a half-bushel measure, when there is a steady, strong wind, and holding as high as I can reach, sift it slowly into a tub; the chess and imperfect wheat is separated from the good. Whatever is thus blown over should be saved as it makes good provender for hogs.

Two years ago I gave a part of my seed wheat a thorough cleaning, and a part was sown full of chess. At harvest time there was, as far as I could

seed, as much chess on the land sown with clean seed as on that sown with the foul. Where I have winnowed my wheat I find grass springs up very thick from seeds dropped, but though the ground may be covered with chess, none grows. For these reasons I conclude that chess does germinate and grow like the seeds of other plants.

M. L. GOODELL.

South Amherst, Mass., Sept., 1871.

REMARKS.—Most of the men who are learned in the science of botany deny that wheat ever turns to chess. They claim that wheat and chess are as distinct in their vegetable characteristics, as cattle and sheep are in their animal diversities. They say that as like produces like, it is as absurd to believe that chess grows from stunted wheat as to believe that by any process of stinting or abusing a calf it will become a lamb. On the other hand farmers have observed facts which satisfy many intelligent minds that the wheat plant, under some circumstances, develops itself in the form of chess. There has been a great amount of discussion in agricultural papers on this subject with the usual result of such discussion—both parties remaining “of the same opinion still.” The botanist, Darlington, ridicules the American belief in the change of wheat to chess, by saying that in the old world farmers believe that wheat sometimes changes to rye, at others to barley, as well as to chess; and that in its turn chess becomes oats!

A few years ago some speculator advertised and sold at a high price certain grass seed called Willard's Bromus. Many farmers were induced by the Norway-oat style of puffing adopted by the “agent” to try it, among others the managers of what was then called the State Farm of Massachusetts at Westboro, all of whom raised a nice crop of chess! We suppose therefore that our sensible correspondent must be mistaken in his idea that chess seed—*Bromus secalinus*, of the botanists—does not germinate and grow like that of other plants.

WINTER SUCCOTASH.

Can you or any of your readers give through the NEW ENGLAND FARMER, a good recipe for succotash for winter use? T. L. WEBBER.

Dedham, Mass., Sept. 1871.

REMARKS.—We gave directions a few weeks since for preparing corn for winter, by boiling, cutting the kernels from the cob and drying them, and now will some of the good cooks that read the FARMER, reply to the above inquiry.

CURE FOR FOOT ROT IN COWS OR SHEEP.

Put a tablespoonful of pulverized blue vitriol in half a pint of kerosene oil and mix well. Apply a little of this to the affected parts once a minute for ten minutes. One or two such applications will cure the worst cases in cows or sheep.

A SUBSCRIBER.

Starksboro, Vt., Sept. 15, 1871.

PASSION-FLOWER.

I notice in most of florist catalogues the Passion-flower advertised as rare and fine. It grows wild hereabouts, and produces a singular and

beautiful flower. I will send a few seeds to any that will enclose a few cents for postage, and to pay for collecting the seed, &c. The seeds should be sown, I imagine in the fall, as it seems to propagate itself.

SAM'L CLARKE.

Hick's Wharf, Va., Aug. 27, 1871.

REMARKS.—This is not hardy in our New England climate, and will not flourish here as it does in East Virginia, as an out-door plant.

WIRE FENCE.

I would like some information through the columns of your paper in reference to the utility of wire fence. Is it efficient against cattle and horses? What is the best mode of construction and the cost? Where can the material be obtained? Would it be a profitable investment?

GEO. WALTER.

Woodstock, Vt., Aug. 29, 1871.

REMARKS.—Some twenty years ago there was much said in the agricultural papers of New England about wire fences. Near Boston, where fencing stuff is expensive, where no stock is allowed to run at large, and where, in fact, but little is kept any way, wire was experimented with considerably. A railroad, over which we pass frequently, put up quite a strip of wire fence on one side of the track, using a large wire, frequent posts, and the best workmanship in the wire fence line we ever saw. After a year or two, boards were nailed on to those posts without removing the wires! All the cheaper structures that we have seen have proved failures as a fence.

If others can make a more favorable report we shall be glad to publish it for the benefit of Mr. Walter and others who have fences to build or to support.

SEASON AND CROPS IN ILLINOIS.

We have had and are having an unusual dry season. There has been no rain of any account since the first of June. Wells are dry, the feed is all parched up, and cattle suffer a great deal. Oats and wheat were good, but the corn crop in this county will fall far behind an average, for the dry weather and chintz bug have used it up. Some of the fields are black with the pest, which have so far injured the corn that it will hardly make good fodder for cattle, but we have to feed it to them now, as grass is all dried up. Farmers are getting their ground ready for fall wheat, but will wait for rains before they sow.

V. B. REYNOLDS.

Greenville Co., Ill., Sept. 8, 1871.

BASSWOOD FOR PUMP LOGS.—The Rochester, N. Y., *Rural Home* says that Mr. George W. Root, a successful farmer of York, Genesee County, who keeps 80 or 90 head of cattle, from 300 to 400 sheep, merinos and Leicesters, which clipped over six pounds of wool the past season, and who sold his lambs at three months old for \$4 each, carries water to every field on the farm in logs, and also to the house, stables and yards. The logs, of which there are 300 rods, are basswood saplings cut on the farm, and although they have been down over nine years are to all appearances as sound as when laid. Mr. Root claims that basswood is the best timber for this purpose, as it soaks full of

water, and timber constantly saturated, it is well known, is very durable.

DR. SHURTLEFF'S SEEDLING PEARS.—Last year we had the pleasure of testing three varieties of some forty which this gentleman has originated on his grounds in Brookline,—all of which we considered worthy of further cultivation,—viz: the Gen. Grant, Shurtleff's Favorite and one unnamed.

We have recently received specimens of three others of his seedlings. The *Gen. Sherman*, resembling in appearance the Bartlett, of a lively, good flavor; the *Admiral Farragut*, a large, good looking fruit, but rather too ripe to test its qualities as an eating pear, and the *Rev. John Cotton*, of good size, rich, fine flavor, melting, and somewhat buttery.

For the New England Farmer.

THE WEST, AS I SAW IT.

BY JOHN DIMON, OF POMFRET, CONN.

MR. EDITOR:—Having just returned from a six weeks' tour through the far West, undertaken with a view of gaining all possible information in regard to that portion of our great country, I have thought that some of your readers might be interested in a few extracts from my journal.

July 18th I left Pomfret, Conn., and on my return, August 31st, I find I have travelled during my absence upwards of 4000 miles. I went to Chicago by way of the Pennsylvania Central Railroad, and passed through some splendid farming country in Pennsylvania and Ohio. The farmers in Pennsylvania were then (July 19th) engaged in securing their oats, of which they had a very heavy crop, and were using four horses to a machine in cutting. Their hay crop had been all secured, and the aftermath was starting up very promisingly. Some parts of Pennsylvania resembles my part of Connecticut very much in the lay of the land, but their farms are all fenced with rails instead of stone walls. Saw large quantities of tobacco growing near Parksburg, Chester Co., in which is some very good farming land. West of Parksburg the streams become Westernized in their limy or muddy appearance, and even the "*Blue Juniata*" is not at all blue but muddy. Now good bye, clear, sparkling, dancing streams of New England, until my return. You are seen neither at the West nor in the sunny South, though the sons and daughters of New England in exile miss you more than any thing else they left behind. We may find more fertile fields and sunnier climes, but nowhere on the face of the globe can we find the crystal springs and bubbling brooks of New England.

I saw many fine looking and well cultivated farms in Ohio. Their crops, herds and flocks look well, but the lack of the thrift and enterprise of New England is attested by the appearance of their farm buildings. Much of the

western part of Ohio resembles Canada very much, in its surface, timber and farm buildings. Ohio is a good sheep State, and the recent rise in wool has given a new impetus to the business, increasing the price of store sheep about 50 cents per head.

I reached Chicago July 20th, and passed on to Monmouth, Ill., 179 miles south-west of that city, and 18 east of the Mississippi, at Burlington, where I have friends and relatives. This is the residence of my genial friend, James Bower, the acknowledged horse man of the West. In traveling from Chicago to this place I ride through miles of growing corn, averaging from nine to twelve feet in height, and promising a yield of from 50 to 75 bushels per acre. Wheat and oats are also good, and farmers are very busy in securing the latter crop, as well as in cutting and securing their hay, which is very heavy. The morning after my arrival at Monmouth I accepted an invitation from Samuel Hillis, Esq., of this city, to visit his farm, about five miles south. He has a field of corn containing 460 acres, averaging about 11 feet high, and I should judge bids fair to yield 60 bushels per acre of good sound corn. Corn is now worth here 30 to 35 cents, and quite dull at that, and it is thought that the new crop will not sell for more than 20 cents.

From Monmouth I cross the river at Burlington, and go West over the Burlington and Missouri Railroad, through a splendid farming country embracing the second southern tier of counties in Iowa. At Villisca, Montgomery Co., I cross the Nodaway River by stage, through leagues of mammoth corn and grass, and up its valley 15 miles to Clarinda, the shire town of Page Co., where I was met by my old friend and relative, C. A. Aylsworth, Esq., who has a farm four miles south, on the Nodaway bottom, which contains 331 acres, nearly all bottom land, with a soil three feet deep on an average, of the very richest quality of this rich land. He has a field of 95 acres corn from 12 to 15 feet high, and estimated to yield from 75 to 90 bushels per acre. This land will produce immense crops for at least one century, without manure. This is a good farming country, but is a little off from railroads at present.

Land here is worth from \$15 to \$40 per acre; corn from 28 to 30 cents, with the prospect that new corn will be sold at 15 cents. Beef cattle are worth 3 cents per lb., live weight, for Omaha and Council Bluffs markets. Farm labor worth \$20 per month, with board. I saw people here from Connecticut, Rhode Island, Vermont and Illinois, engaged in farming. All crops are good except spring wheat, which has been nearly destroyed by the chintz bugs. Spring wheat is not considered a certain crop here anyway. Neither do I believe winter wheat can be relied on. I think corn and grass converted into beef and pork will prove most profitable. South-western

Iowa is a good farming country, generally well watered and healthy.

From Clarinda I go west to Red Oak Junction, in Montgomery County, on the East Nishnabotany River, a place of 2000 inhabitants and only two years old, located on the Burlington and Missouri Railroad, 39 miles east of the Missouri River. This place is exceedingly well located for the centre of a good agricultural community, and land is fast settling up around here, and is worth from \$10 to \$50 per acre, by the farm. The society here is a little rough and rum by far too plenty.

For the New England Farmer.

HARVESTING CORN.

I have read the very flattering approval of my article, "What is the best method of harvesting corn," by C. E. Kimball, and also his mode of procedure, which is unobjectionable; but as it varies somewhat from my own, I will, at his request, furnish a more detailed statement of my method.

I commence as soon as the corn is found to be well glazed, even though the stover may be green. Take five rows of corn at each cutting, using the middle row to set the stooks upon, which, instead of using any implement, are set about hills, which has a tendency to support the stook in case of severe winds. Begin cutting by taking the first hill in the middle row and place it against the second hill, around which the hills are placed until the stook is sufficiently large, which in corn of good size, will usually be found to be three hills from each of the five rows, so that the stooks will be the distance of three hills apart. Continue cutting, unless there be a wind sufficient to prostrate the stooks, until a good portion of a field is cut, before binding at all. In this way perhaps less time is occupied than by the method pursued by Mr. Kimball. When ready for binding, procure a bundle of rye straw, clasp the top, or rather near the top of the stook, lightly, with the left arm, over which, with the right arm, break the tops of the stalks and bind tightly with the straw, and the operation is performed. Some, however, prefer to use two bands, as mentioned by Mr. Kimball, but I have been unable to discover any advantage resulting from the additional labor.

The corn being cut, is allowed to stand until sufficiently cured, and which, if properly and carefully placed when cut up, will be effected with but little injury to the stover.

When about to cart, a man takes a knife and rapidly passes along each row of stooks, severing the stalks of the hill about which the others are placed; he is followed by the cart, which is an ordinary hay rack, upon which the stooks are placed, with the butts alternating, so as to keep the load well balanced, and which can sometimes be increased in width, so that the butts may be put out both sides. In

this manner the entire load must be thrown off with the fork, which takes more time than the method employed by Mr. Kimball.

I was very much gratified in reading the article of Mr. Kimball, as it has confirmed my previous belief that among the great benefits of an agricultural paper are the opportunities it affords practical farmers to give expression to their experiences, and in which can be related the different modes of practice adopted by all, which can be compared and the better method adopted.

W. H. Y.

Columbia, Conn., Sept., 1871.

For the New England Farmer.

THE ENGLISH SPARROW.

Several articles that I have read in the *NEW ENGLAND FARMER* indicate doubt in regard to the usefulness, or otherwise, of the English sparrow in gardens.

For twenty years I was surrounded by the "Finches," which include the Robin, Linnet, Nightingale, Lark, Redstart, Hedge, Ground and House Sparrows; the three last taking their names from the places in which they build their nest; they all live on the same kinds of food, but having habits that are dissimilar they are regarded with more or less favor, as the prejudice or interest of individuals may be affected. All the birds I have mentioned live on seeds, fruit and insects, never on buds of fruit trees, except when in unusual cold winters the soil is covered with snow so as to cut off all means of obtaining their natural supply of food,—seeds and insects.

The House Sparrow is, especially in and near to large towns, far more numerous than the other birds I have mentioned, and hence it is that amateurs in such localities are so much out of temper with them in the fruiting season, and for the same reason the market gardener dislikes them.

The aversion manifested by cultivators of the soil for the house sparrow more than for the other varieties of the finches is not because they destroy any kind of seed or fruit the others do not, but because of their prolific, voracious, persistent and pugnacious nature.

The Robin is as pugnacious and intrusive as the sparrow, but prejudice protects him; he is discreetly bold, is round chested and of beautiful color, not more than a quarter as large as the American robin and with soft and pleading voice. In winter, he comes to your door and sweetly pleads for help, and woe to the cruel boy who dares to injure "poor Bob." For similar reasons, the other birds I have mentioned, though they eat fruit and seeds, are respected; the form, color, and particularly the song of these win regard and inspire love; but the house sparrow, poor fellow, call him Ishmael, for every man's hand is lifted against him; he is destroyed without mercy or regret, and he seems to increase in

about the same proportion means are used to exterminate him.

In winter, boys are encouraged to destroy the house sparrow by any means they can; in spring and summer they take the young from their nests, as many sometimes as a hundred from the eaves of a single house, cut off their heads and take them to the Church Wardens of the parish; these officers have corporate power over the temporal concerns of the sections in England called parishes, and as a reward for the industry of the boys they give them one farthing per head.

In the southwest of England the gardener spades up his land in February, and the birds become useful in eating insects, just as they had been in the fall and winter in eating the seeds of weeds. In March the gardener and farmer begin to pay for services rendered. By this time wheat is above ground; by the twenty-fourth day onions, carrots, parsnips and lettuce seed have been sown; as early as February, on southern borders protected on the north, potatoes were planted in drills, radishes were sown broadcast over them and straw put on to protect all; this being removed by day, forwards the radishes, and in March the sparrows are as busy with them as they are with the wheat now just above ground; and now for the farm and garden boys, from early morn till dark, in the dry, bleak wind of March which chaps the hands and face until the blood is seen on the surface of both; in father's old coat with sleeves rolled up and tippet around the neck, with cap drawn down over the eyes, he continues to clap, clap, clap with his wooden clappers, and hoarse with continued vocal performance he cries perpetually "Holloa, holloa there, I will with my clappers, knock you down backwards, for stealing my master's corn."

Now it is that the poor boy gets sixty cents per week for his vigilance in preventing the poor sparrow from taking his pay for eating up insects and the seeds of weeds, and the war goes on; the sparrow is industrious in his work of self preservation, the farmer and gardener equally so disposed, and in the end each lives by effort and dies in good time to relinquish the strife which for ages has been bequeathed from father to son; but who can demonstrate that the sparrows devour of good seed and fruit equal to what they save by destroying injurious seeds and insects?

Poor house sparrow! His constantly excited chirp, chirp, chirp; his noisy quarrels and pugnacious disposition make him disliked, and his voracity and fruitfulness make him in spring and summer a pest to the farmer and gardener; but in fall and winter, in a general sense, he is a great blessing, the balance is certainly in his favor. But as "the dog that gets a bad name seldom loses it," so the sparrow is hated by the force of tradition and prejudice, while the other varieties of small birds, because of their retiring habits, their

plumage or their song, are general favorites; but remember, they all live by destroying insects, seeds and fruit. JOHN FLEMING.

Sherborn, Mass., Sept., 1871.

FARM ROADS.

Every farm of considerable size, if compact in form, should have a substantial road through it. This should be so arranged as to afford access to most of the cultivated fields, and to the pastures. It should be of sufficient width to enable a team to turn into, or out of, with a load of hay. The gates or bars opening to the fields should be strong, so as to allow the cattle to be turned into the road directly from the barn-yard. In this case the road becomes a part of the pasture.

It would be economical to remove the surface of this road, and replace with coarse gravel at the bottom, and screened gravel at the top. When thoroughly rolled, with a very heavy roller, it would probably resist the action of wheels, so as to leave quite a smooth and easily travelled road.

If some portions of the way are of a soft and swampy character, it would be well to take off the surface until a firm bottom is reached, and then fill up to within six or eight inches of the top, with some of the stones that are in the way on the farm. If on a farm where stones do not abound, fill with old timber, coarse brush, plank, or anything which will prevent the gravel from sinking, then fill with sand, gravel, or whatever can be obtained at least cost, that will best meet the purposes desired.

For want of such a road, we have seen farms greatly disfigured. Otherwise beautiful fields were cut into unsightly ruts, and the cost of mowing and raking them nearly doubled in consequence of their existence. When it becomes necessary to re-seed such fields, the furrows are broken every time the plough passes over the ruts, and the places can only be made level and smooth by hand, with hoe or spade. If the land is to be planted and cultivated before seeding to grass, it is not of so much consequence; but still, the neat workman will be annoyed by the slovenly appearance of the field.

A good road passing through the farm is greatly needed in the spring. The ground is then soft, and the teaming to be done of the heaviest kind. Very few farmers appreciate

the weight of a two-horse cartload of green manure. An easy way of ascertaining will be by taking an old bushel basket, weigh it, and fill the basket, weigh again and empty into the cart until it is filled with such a load as is usually drawn out by the team.

Dana, in his Muck Manual, page 138, states that one cord of green cow dung, will weigh 9289 pounds! It is not unusual to see an ox cart filled with such material, to be hauled off by a single pair of oxen, and perhaps over ploughed ground, where the power to move it ought to be twice as great as on a hard road. We have often seen a common horse cart filled with green manure from the barn cellar, and taken to a ploughed field by a single horse. When there, the feet of the horse would sink to the fetlocks, and the wheels of the cart several inches into the soft soil! Still, the poor animal was expected to draw the load. On requiring a farm hand to find the weight of his loads by the "basket process," it appeared that he was hauling out about 2200 pounds at each load. Such a load would not be too much, perhaps, for a stout horse, on a hard road, but over a newly ploughed field, it was a cruel exaction.

There are other reasons why the farm should be supplied with one good road, at least. Through moist soils, ruts are soon deeply cut; this not only increases the draft, but the carts soon become coated with mud, and sometimes that coating remains on them during the entire summer—haying season and all! This injures the paint and wood work of the vehicles, and, to say the least, is no credit to the farmer.

With good private roads, then, a farmer will perform his operations at much less expense; the labor of the teams will be much easier; a greater quantity or weight of grain and other articles may be more expeditiously carried over them; manure can be more easily conveyed to the fields; the harvests can be carried on more rapidly, and wear and tear of every description will be greatly reduced.

HARVESTING BEANS.

Beans are sometimes injured by the want of proper care after they are pulled. If they lay too compactly, so that they heat a little, they acquire a musty flavor which greatly injures them. To prevent this they must be

laid in such a position as to receive the sun and a free circulation of air.

Some persons set posts in the ground, in the form of a square, put rails into the post holes, crossing with other rails, and upon these lay the beans. But even upon this network they will sometimes mould, if they are piled up to the depth of a foot. Other persons hang them upon fences or lay them upon stone walls. They will dry in either of these positions, but are apt to be blown about, and disturbed by cattle, or other causes.

They will dry admirably if packed upon birch poles. Cut the poles to about eight or nine feet in length, leaving the side branches projecting some ten or twelve inches. Set the poles firmly in the ground, in holes made with an iron bar, and ram the earth about them so that they shall not be swayed by the wind.

If there is no branch on the pole near the ground, nail on a piece of board a foot and a half from the ground, then another piece across it. Upon these lay the vines, having the roots always on the inside. Fill the pole nearly to the top in this way, then hang a bunch of beans on top and tie them to the pole. In this way they will stand firmly, and become sufficiently dry to thrash out easily, and at the same time be perfectly sweet.

Another mode which was given by a correspondent of the *Rural New Yorker*, several years ago, was as follows:—Use two stakes seven or eight feet long and about two inches through. Set them in the ground about two inches apart, put a withe on the stakes eighteen inches from the ground; take a small handful of beans, and lay the roots between the stakes, so far through that the tops will not reach the ground; then a bunch the other side in the same way. After this, the roots only should come between the stakes, and the roots of each bunch should be laid at *right angles with those of the bunch preceding*. When within a foot of the top of the stakes, put on another *withe*, drawing the stakes together to hug the roots closely, then fill up with beans as before, to the top; then take two bunches of beans, tie the roots together and lay astride the top and it is finished.

This, upon the whole, may be the best way of stacking beans. If pulled soon after most of the leaves have turned yellow, they might

be stacked as fast as pulled. They should always be handled by the roots. When the stacks are thoroughly dry, they may be taken to the barn whole, by pulling the stakes from the ground.

AUTUMN TINTS.

Mr. H. C. SORRY, who has for some time been engaged in investigating the coloring matters in plants, has recently published the results of his researches in several English scientific works and given a summary of them in "*Nature*," from which we gather the following conclusions.

He divides the different coloring matters found in leaves as follows:—1. The *Chlorophyll* group, containing the dark green; 2. The *Xanthophyll* group, which contains, with some other rarer forms, two shades of orange common in leaves; 3. The *Erythrophyll* group, which contains a number of colors; but those met with in leaves are more or less purple, made bluer by alkalis and redder by acids; thus plants containing the same color of this group may vary much in tint by the varying amount of free acid; 4. The *Chrysotannin* group, containing many yellows, some very pale and others of a golden yellow; 5. The *Phaiophyll* group comprising the brown colors.

Thus the many tints of foliage depend on the relative amount of the various colors of the several groups mentioned. The color of green leaves is mainly due to a mixture of chlorophyll and xanthophyll, and the different shades of green is owing to the relative amount of these two primary coloring matters, and the other colors of leaves are occasioned by the preponderance of coloring matter from the other groups and the alteration by chemical action of the chlorophyll. So long as the chlorophyll remains green and fresh, the other colors are impossible, but as it disappears, the yellow color of the xanthophyll appears, and if much erythrophyll is present its color combines with the yellow and gives the scarlet and red tints. When the chlorophyll does not disappear, but is modified by acids to its dark olive form, only the dull tints come out on the leaves.

"We may thus easily understand why the special tints of early autumn are yellow and red, or dull and dark green. In these changes the various pale yellow substances of the

chrysotannin group remain comparatively unaltered, and even sometimes increase in quantity; but they soon pass into the much darker red-browns of the phaiophyll group, whilst the erythrophyll fades; and thus later in the autumn the most striking tints are the brighter or duller browns, characteristic of the different kinds of plants or trees. * * * * *

"As far as we are able to judge of the various facts described, we must look upon the more characteristic tints of foliage of early spring as evidence of the not yet matured vital powers of the plant. In summer the deeper and clearer greens are evidence of full vigor and high vitality, which not only resist, but also actually overcome the powerful affinity of oxygen. Later on, the vital powers are diminished, and partial changes occur, but the affinity of the oxygen of the atmosphere is nearly balanced by the weakened but not destroyed vitality. At this stage the beautiful red and yellow tints are developed, which produce such fine effects of scenery. Then comes death, when the affinity of oxygen acts without opposition, and the various brown tints of later autumn make their appearance, due to changes which we can imitate in our experiments with dead compounds. This may not be a pleasing way of viewing an otherwise charming subject, but I think that it is substantially true."

AGRICULTURAL ITEMS.

—Mr. J. C. Oliver suggests that the bulk of butter exhibited at our fairs be protected by glass, with small samples placed so that visitors could test and examine them.

—A Western paper says that the farmers of Jasper county, Missouri, are offering their corn on the stalk at ten cents per bushel. It is so abundant that some think it will not pay to gather it.

—The newest wonder at the West is a soda lake near Rawlings, on the Union Pacific Railroad, several miles in circumference, and capable of supplying 65,000 tons of soda a year.

—The editor of the *Germantown Telegraph* says he has raised the Buerre Clairgeau pear, recently figured in the *FARMER*, for years apparently in perfection, judging from its size and rosy cheeks, but has never had one yet that was fit to eat.

—In a description of Robert Leeds' farm at Castle Acre, in Norfolk, Eng., Mr. Geo. H. Cook, of the New Jersey Agricultural College says, in the *Country Gentleman*, "The farm lies in the chalk district, and the soil is everywhere underlain by that substance, which is only a foot or two beneath

the surface. The land is rolling, the soil loamy, and sufficiently dry to need no artificial draining. The crop of wheat averages from thirty-two to thirty-six bushels an acre, though in exceptional seasons it has gone as high as fifty-six and even sixty bushels an acre."

—At Elmwood, Ill., recently, a threshing machine, while in operation, caught fire from the friction of the machinery, and burned up, communicating with and destroying two stacks of grain. The entire loss was about \$1000.

—A new kind of fodder plant (*Gymnothrix latifolia*) has recently been introduced into France from Uruguay. It is not unlike the sugar-cane in appearance, grows eight or nine feet high, and is said to make excellent fodder either when green or cured.

—We learn from the *California Farmer*, that the Alvarado Sugar Co. bids fair to be successful in the manufacture of sugar from the beet root; having been in operation only a few months, they have consumed about 3000 tons of beets, and made half a million pounds of sugar.

—Nothing is wanting but good hives, good pasture, cleanliness and attention to insure a rich reward to those who engage in bee culture; but, says Mrs. Griffith, training is quite as necessary to the full comprehension of the occupation, as it is in the trade of a carpenter or shoemaker.

—Cover closely all cisterns, rain-water barrels, and other vessels containing water, and fill up all holes where water is inclined to stand. By thus propagating no "wiggle-tails," you will have no mosquitos. These precautions are good as a sanitary measure, too.

—A Canton, Ill., farmer says:—"I was going out past my corn crib the other morning, when I observed a large rat, with head erect, carrying a full-sized ear of corn in his mouth. At the same time his tail was wrapped around another and an extra large ear, which he was dragging behind him."

—Plough and Cultivator makers of the West, representing a capital of \$5,000,000, held a convention at Chicago recently. Resolutions were adopted to regulate the number to be made, manner of putting them on the market, scale of prices, &c. It was stated that the yearly profits did not exceed 10 per cent on capital employed.

—As Henry Sargeant of Waterport, N. Y., was driving a load of grain to his barn recently, he struck one of the horses with the butt end of the pitch-fork, when the animal kicked, hitting the handle of the fork and sending the tines as straight as an arrow through Sargeant's body, killing him instantly.

—At South Sunapee, N. H., a few days since, as Mr. Asahel Lear and Mr. C. A. Maxfield were going to their work they observed a cloud of singular looking insects in the air. Their wings came

off, and they fell to the ground in such numbers as to completely cover it. Soon as they fell they began to dig holes in the ground and disappear. Their wings looked like scales, and blew like dust before the wind. The insect resembled the ant in some respects. Its body was divided into three parts, its head, its corslet, which was very small and round, and its abdomen, which was as broad as long, and altogether larger than the ant. They possessed great strength, digging into the hard earth and removing pebbles several times their size with astonishing rapidity.

—In reply to a correspondent, the *St. Louis Journal of Agriculture* says, we cannot recommend you to make the raising of fast horses a *specialty* in your business. True, fabulous prices are often paid for extra fast steeds—more especially at the present period; however, if you will take the trouble to consult the experience of men who have started out on this plan, you will find they possess light purses as a general thing. Far better would it be, were you to raise fast roadsters and rapid walkers, and leave all the 2:15's and 2:20's for others to rear. English history records a fact that you would do well to ponder: Out of every thirty colts from thoroughbred stock on both sides, but *one* proves extra fast.

TREATING OLD PORK.—Old pork in summer is not generally relished; much of it is tainted, and some of it not fit to use. Now this can all be remedied, and a fresh palatable dish made of it, except where the taint is too evident.

First, soak in cold water (changing the water) till fully freshened. Then bring to a boil and boil fifteen minutes. Pour off the water, and fry for the same length of time or little less, depending on the heat. Remove the grease and cover with sweet milk. Boil down, salt a little, and finish by frying it a light brown. Be careful and do not burn, as this is easily done in the tender condition the pork is now in. It will be very tender and sweet, and have the taste of fresh pig's meat.

This, it will be seen, requires some labor. But this can be much lessened by treating a sufficient quantity at one time for several meals, as it will be equally good if "warmed up."—*F. G., in Prairie Farmer.*

GROWING POND LILIES.

On seeing my dish of pond lilies and admiring their beauty and fragrance, I asked, why is the pond lily so little cultivated?—a flower so much admired and so easily grown, and yet in many places so rare. The answer was: It is not universally known that it can be grown so easily. Many ask the question, where did you get those pond lilies? We tell them we raise them. "What, raise pond lilies?" We reply yes—raise them as easy as corn or potatoes. And, as many seem in-

terested about them, I thought I would tell the lovers of flowers how we raise ours. A few years ago my husband, seeing some growing in a distant pond so nicely and spontaneously, thought he would try them in his—a small pond of a few rods extent at one end of his field. He brought home a root and set it in. This was done by wading in barefoot, and taking it between the toes and pressing it down in the mud. It soon made its appearance above the water, and now the pond is pretty well covered with leaves and lilies, and it does not have that sickening appearance that standing water usually has, but is made the home of one of the most beautiful kinds of flowers instead. We know of no insect that troubles them; neither frost nor wind affects them; nothing molests them but mischievous boys, who love the flowers, but will take no pains to raise them themselves.—*Maine Farmer.*

REMARKS.—Those who do not like to wade into the water to plant the roots, may tie a stone to each root, and from a boat drop it where they would like to see a lily show its face.

AN ENGLISH PRIZE FARM.—The Royal Agricultural Society of England annually awards prizes for the best conducted farm. Last year the first prize went to a lady. This year twenty-three farms were entered. Four prizes were awarded. The first was £100; the second £50; the third and fourth, or rather two of equal merit, £25 each. One of these last was awarded to a lady.

The first prize was awarded a tenant farmer holding about 400 acres, of which something less than 300 are ploughed. The rotation is what is called the Norfolk or four course rotation, of wheat, turnips, barley and clover. Each year he has 70 or 75 acres each of wheat and barley, the first yielding 32 to 36, and the second 44 to 50 bushels per acre. He keeps 25 to 30 Hereford cows with their produce up to two and a half or three years old; 150 to 160 Shropshire ewes with lambs and yearlings, sold when 15 months old. Pigs are not bred, but a considerable number are fed on the farm each year. The land is considered second rate land, and the management is spoken of as "clean and business like."—*Western Farmer.*

TO HARDEN THE NECKS OF TEAMS.—When a harness or yoke of bows do not fit properly, and the skin is liable to be galled, bathe those parts before they are galled, with cold water until the outside skin appears quite soft, and then bathe those parts with a strong decoction of white oak bark. Let this be done every day, and the skin will become much harder and tougher than it usually is. A little care in preventing an ill, is far better than much

labor and skill in curing it, or in endeavoring to obviate its injurious effects.—*Working Farmer.*

From the Atlantic Monthly, for October.

MY BIRTHDAY.

JOHN G. WHITTIER.

Beneath the moonlight and the snow
Lies dead my latest year;
The winter winds are wailing low
Its dirges in my ear.

I grieve not with the moaning wind
As if a loss befall;
Before me, even as behind,
God is, and all is well!

His light shines on me from above,
His low voice speaks within,—
The patience of immortal love
Outwearying mortal sin.

Not mindless of the growing years
Of care and loss and pain,
My eyes are wet with thankful tears
For blessings which remain.

If dim the gold of life has grown,
I will not count it dross,
Nor turn from treasures still my own
To sigh for lack and loss.

The years no charm from Nature take;
As sweet her voices call,
As beautiful her mornings break,
As fair her evenings fall.

Love watches o'er my quiet ways
Kind voices speak my name,
And lips that find it hard to praise
Are slow, at least to blame.

How softly ebb the tides of will!
How fields, once lost or won,
Now lie behind me green and still
Beneath a level sun!

How hushed the hiss of party hate,
The clamor of the throng!
How old, harsh voices of debate
Flow into rhythmic song!

methinks the spirit's temper grows
Too soft in this still air.
Somewhat the restless heart foregoes
Of needed watch and prayer.

The barque by tempest vainly tossed
May founder in the calm,
And he who braved the polar frost
Faint by the isles of balm.

Better than self-indulgent years
The outflung heart of youth,
Than pleasant songs in idle ears
The tumult of the truth.

Rest for the weary hands is good,
And love for hearts that pine,
But let the manly habitude
Of upright souls be mine.

Let winds that blow from heaven refresh,
Dear Lord, the languid air;
And let the weakness of the flesh
Thy strength of spirit share.

And, if the eye must fail of light,
The ear forget to hear,
Make clearer still the spirit's sight,
More fine the inward ear.

Be near me in my hours of need
To soothe, or cheer, or warn,
And down these slopes of sunset lead
As up the hills of morn!

AMBER.

A very large proportion of the amber appearing in the various markets of the world is supplied by the province of Prussia, including the neighboring district of Memel. The following particulars are gleaned from a report by Mr. Ward, Her Majesty's Vice-Consul at Memel.

In the western portion of the province of Prussia amber is found not only on the sea shore, but also in the mountainous ranges of the interior; excepting, however, in rare cases, of its appearance in so-called "nests," amber is only to be met with in isolated places in the latter localities, so that the profit arising from the amber diggings among the hills is but a very moderate one, and may be estimated at about double the amount paid by the proprietors for the wages of the diggers. In East Prussia, however, and especially in that part called the Samland, amber is more abundant, and during the prevalence of certain winds is frequently thrown upon the shore by the sea in large quantities; it is collected there, as well as fished for in the surf; it is also dug out of the sand-hillocks running along the sea coast. In these sand-hillocks regular beds of amber are found enclosed in a soil of blue clay, which is to be met with at an average depth of about 100 feet in a thickness of twenty-five to thirty feet. It is stated that out of some diggings established in those parts 4,500 pounds of amber were raised in the course of four months of the year 1869. Diggings of this kind exist at present in various spots of Samland. There are establishments at Brusterort, where amber is obtained by divers from the bottom of the sea, and at Schwarzort, near Memel, where it is raised by dredging for it at the bottom of the Curish Haft; the importance and size of the dredging establishment last mentioned has of late years increased considerably, and at present about 80,000 pounds of amber are annually obtained by it.

The total amount of amber obtained during the year 1869 in all parts of the province of Prussia by the various means of collection is estimated at about 150,000 pounds, the value of which may be taken at 550,000 Prussian dollars. The quantity collected (by fishing for it) in the sea and upon the shore is about equal to that raised by the digging and dredging works. Accordingly to the opinion of competent persons, the produce of the diggings could be increased considerably by working them upon a regular mining system.

Apart from the fact that no certain knowledge has hitherto been arrived at as to the actual extent of the amber fields in the blue clay,—and these fields exist most probably not only in the vicinity of the sea-coast, but also in the interior of the Samland, and even beyond that district and the frontiers of Eastern Prussia,—it is most likely that below the stratum of clay to which the diggings are at

present confined there are other strata in which amber would be met with. This supposition is based upon the circumstance that considerable quantities of amber have been found among the soil washed away by the sea during heavy gales from those portions of the coastal sand-hills which lie below the layer of blue clay first alluded to.

The prices of the principal kinds of amber, as stated by an official report, vary according to the size, ranging from twenty-two Prussian dollars per pound, where the pieces run about nine to the pound, to four dollars, where the pound requires 100 or more. The prices of larger (so-called cabinet) pieces are subject to great fluctuations, and are fixed by the increase or decrease of demand from the East; the prices of the commoner kinds seldom vary more than about ten per cent. The chief seat of the retail amber trade is Dantzic; the wholesale trade is at present in the hands of only two or three firms in the province of Prussia.

The working of the Prussian amber into mouth-pieces, beads, &c., is likewise carried on chiefly at Dantzic, but also in all large cities; of late a manufactory of amber wares, has been established at Polangen, a small Russian town near Memel, and it is intended to open similar works at Königsberg, Moscow and at New York.

SCOURING IN STOCK.—Among the many remedies given for scouring in stock, I find none so good as strong coffee. We have saved the lives of colts, cows, calves, and pigs. Make the coffee strong, and if they cannot be induced to drink, pour it through a funnel or from a bottle; but don't pull out the animal's tongue, as is recommended by some, because it is most sure to get into the windpipe. We saved a valuable cow by giving ground coffee in some bran, salted to suit the taste. We once bought a pair of Chester White pigs, and at six weeks old one of them commenced scouring. All remedies failed to check it. We gave it a few spoonfuls of strong coffee, which effected a cure.—*Rural New Yorker.*

PEAR TREE BLIGHT.—At a late meeting of the Western New York Farmers' Club at Rochester, Mr. Quimby said he had noticed that the pear blight was more prevalent this year than common. It generally commences on the extremities of the limbs, and is easily headed by cutting off the limb below the diseased part. If neglected, the disease works down the limb to the body and soon destroys the tree. He had noticed that a small, diseased limb lying across a healthy one would impart the disease. Fruit growers who permitted the blight to ravage their trees were very much to blame, when it could so easily be cured. Some varieties of pears were very knotty this year.

Ladies' Department.

THE BASHFUL LOVER.

Ah, well! John came to-night and stood
For full an hour beside the bars;
And we two watched between the trees
The glimmer of the moon and stars.
John acted very strange, I think—
I wish I knew the reason why;
I really thought he meant to say
Something, to-night, besides good-bye.

John's coming here quite often now;
I'm sure I don't know why he should—
Although my sister Mary says
It's talked about the neighborhood
That he is making love to me—
The strangest thing I ever heard;
For if it's true, how queer it is
That John has never said a word.

Ah, well! I shouldn't care so much
If John himself had told me so;
For then he might have said it all
Upon his own account, you know.
But he's so bashful, I believe
He'd never dare to speak out plain,
I hope he'll muster courage up,
And try it, when he comes again.

It cannot be that I'm to blame—
I'm sure I've helped him all I could;
I've always met him at the bars
And talked as any woman would
That had a lover whom she liked,
And waited with her heart aglow
For him to break the subject first,
And then how quick she'd let him know!

But John, he keeps a coming still,
Just as he has for twelve months past;
I've thought sometimes it looked as though
I'd have to speak myself, at last.
I'm bound that he shall know the truth,
And now, resolved, I cannot wait
For him to find it out himself;
And so, next time, I'll try my fate.

YOUTH, LOVE AND HOPE.

They were now also part of the great circle of newly wedded bliss, which, involving the whole land during the season of bridal-tours, may be said to show richest and fairest at Niagara, like the costly jewel of a precious ring. The place is, in fact, almost abandoned to bridal couples, and any one out of his honeymoon is in some degree an alien there, and must discern a certain immodesty in his intrusion. Is it for his profane eyes to look upon all that blushing and trembling joy? A man of any sensibility must desire to veil his face, and, bowing his excuses to the collective rapture, take the first train for the wicked outside world to which he belongs. Everywhere he sees brides and brides. Three or four, with the benediction still upon them, come down in the same car with him; he hands her travelling shawl after one as she springs from the omnibus into her husband's arms; there are two or three walking back and forth with their new lords upon the porch of the hotel; at supper they are on every side of him, and he feels himself suffused, as it were, by a roseate atmosphere of youth, and love, and hope. At breakfast it is the same, and then, in all his

wanderings about the place, he encounters them. They are of all manners of beauty, fair and dark, slender and plump, tall and short; but they are all beautiful with the radiance of loving and being loved. Now, if ever in their lives, they are charmingly dressed, and ravishing toilets take the willing eye from the objects of interest. How high the heels of the pretty boots; how small the tender-tinted gloves; how electrical the flutter of the snowy skirts! What is Niagara to these things? * * *

The place perpetually renews itself in the glow of love as long as the summer lasts. The moon which is elsewhere so often of wormwood, or of the ordinary green cheese at the best, is of lucent honey there from the first of June to the last of October; and this is a great charm in Niagara. I think with tenderness of all the lives that have opened so fairly there; the hopes that have reigned in the glad young hearts; the measureless tide of joy that ebbs and flows with the arriving and departing trains. Elsewhere there are carking cares of business and of fashion, there are age, and sorrow, and heartbreak; but here only youth, faith, rapture. I kiss my hand to Niagara for that reason, and would I were a poet for quarter of an hour.—*W. D. Howells, in the Atlantic Monthly for October.*

TOWEL COSTUMES.

The great novelty in travelling-dresses are the Baden-Baden towel costumes, that are literally made of the rough brown bath towel, which we know better as Turkish. One of these suits was made in the form of a polonaise, body and skirt in one, very bouffante at the back, the sleeves rather of a large coat-sleeve form, trimmed round and down the front, round the neck and skirt, with four or five cross-cut bands of chocolate-colored cambric, the petticoat being of the same cambric, made with a succession of flounces; and, strange as it may seem, there was nothing at all *outré* in the appearance, but it was rather warm and heavy. Various other species of towelling are now converted into polonaises, and worn over bright-colored petticoats. That useful material, chambertin, a kind of canvas cloth of a dark-brown holland color, is very much sold for travelling dresses for immediate wear, where no warmth is required. Among the prettiest style or make is the following: A skirt long enough to touch the ground, with a straight-cut flounce from the knee put on in box plaits; at the edge of this a narrow cross-cut flounce, edged with white lace; the tunic trimmed with white narrow lace, and made to tie up the back, which is so easy for packing; a semi-tight-fitting jacket, the basques cut up in tabs, edged round with crossway tucks of the material laid on with piping, and edged top and bottom with lace. Brown hollands are always useful for travel-

ing; they are made just now mostly with flat crossway tucks, and piped at the top, and are very easily washed and packed. Nearly all the jackets of such costumes are semi-tight-fitting. I have also seen several made with flounces to the waist, and over this a loose jacket, the basques cut in square tabs, and a ruckling of the holland all round, edged both sides with lace. Still the polonaise is the fashion of the year; and whether for traveling dresses or anything else, is most worn. Serges, for Scotland and anywhere where warmth is required, are still much in request, especially black. I have seen several trimmed with bands of the same, piped with red, and worn over a red petticoat; other black ones are trimmed with very broad black Russian braid and fringe. One of the old shade of naval blue I saw trimmed round the skirt and tunic with four rows of inch-wide braid, with loops of the same close together under the bottom and above the top row; an inexpensive and very effective style. Most of the jackets are made loose, and the bodies under them so arranged that they can be worn with or without them as they may be required. Poplin costumes for travelling are most fashionable; so are the woolen poplins, and nearly all these are trimmed with crossway folds piped at the top. The shades in woolen poplins are very pretty, particularly the grays, and slate colors, and buffs. Mohairs are very much improved this season, especially what are called the lustre mohairs, which are very bright, and wear better than anything. Pretty costumes of narrow-striped black and white mohairs can be easily made by people having sewing-machines, as most of them are trimmed with black woolen poplin, stitched on in crossway bands. Twilled mohairs and bareges, (a new, thick, useful woolen material,) in two shades of brown, and black and gray, are stylish and useful.—*Queen*.

THE FALSE EDUCATION OF OUR DAUGHTERS.

The English nobleman who sends to Paris for his daughter's dresses is reasonably certain that he, and his daughter's husband after him, can continue sending, and that in the training of his child he is fostering no habit which cannot be rightfully indulged in. The American knows, if he knows anything, that the habits of luxury in which his child is reared unfit her for the duties of the life to which she will in all likelihood be called—that he cannot hope that his family wealth can long survive him, any more than that his daughter will love a man to whom that wealth will be unimportant. Experience and obser-

vation alike tell him that wealth in this country rarely continues in a family three generations, and that at any time he may find himself a poor man again. Yet he regulates his life and that of his children as if his wealth and theirs were assured forever, and as though the habits of a lifetime were to be broken like wisps of straw. His daughters are not fit to marry any but the rich men they experience so much difficulty in finding, and a man of moderate means is careful to avoid asking them to change their habits of life. There are few sadder pictures than the one we see when some such woman of braver heart than most of her sex chooses the portion of a poor man's love and vainly seeks to adapt herself to a life of which she has hitherto known nothing. The habits of her girlhood bind her like strong fetters, her ignorance of domestic duties weighs her to the earth, the loss of social position or the fevered efforts she makes to support it wear out her life in bitter repinings, until her health gives way and she dies, leaving her faults to vex the world in her children, and her virtues undiscovered save by the husband, who hides from himself all else of her memory.—*Lippincott's Magazine for October*.

IRISH POPLIN.—Beyond doubt there are few materials so thoroughly becoming to a woman as Irish poplin. It falls in soft massive folds, and has no disagreeable rustle; but rather that soft *frou-frou* about which the French novelist goes into raptures when he describes the gracious movements of his heroine. The brilliant colors are varied and numerous as the tints on a painter's palette, and afford a choice of hues so extended that every complexion may find its most becoming color. There are tender Spring-like greens for the too florid cheek of the matron, turquoise blue for the rose bloom of girlhood, delicious French grays and pearly shades of every degree for the bride of mature years, or the young bride's mother, and a sliding scale of the rubies, amethysts, and maroons which are just now so fashionable; while for those who desire to exhibit their loyalty or nationality, there are tartans of every clan. Of the economy of the fabric it is almost needless to speak. It is alike on both sides, has none of that "up and down" about which dressmakers complain when making up figured silks, and will look bright to the last hour of its wear. For the interests of the manufacturer, Irish Poplins wear too well; they outlast every other material used for ladies' dresses, and are a real boon to the economic.—*Belgravia*.

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MONTHLY.

SIMON BROWN, { EDITORS.
S. FLETCHER, }

DECEMBER--THE LAST MONTH OF THE OLD YEAR.

"Thou art passing, passing old year,
In the shadowy mist afar,
With thy last faint flash of revelry,
Like the light of a falling star."

MRS. BROOKS.



DECEMBER, the last

mouth of the year usually brings to us established winter weather before it closes. The trees are stripped of their leaves, the flowers have faded, the fields are brown and uninviting, or, perhaps, covered

with snow; the cloudy atmosphere wraps us about with dewiness and chilliness; the birds have mostly gone, and the reptiles and other creatures, that sleep or hide during the cold weather, have retired to their winter quarters.

The operations of the farmer on the soil are now greatly contracted, so that he can give time and careful attention to the domestic animals which are dependent upon him for comfort, and even for the means of sustaining life itself. They have been faithful co-workers

with him in preparing the soil for the production of crops, in cultivating them during the growing season, and, when ripened, in securing the rich harvests that are to sustain all, man and beast, during the inclement winter months.

To the superficial observer, all nature now seems inactive and dead. But it is not so. There is more of decay and death in the summer than in the winter months. When the soil is open and the sun sends its creative beams upon it, and gentle rains send their refreshing influences through its every pore, then vegetable matter springs into life rapidly, comes to perfection and dies. Plants in perpetual succession,—from early April to the time when the earth is bound in solid frosts,—start into life, grow, ripen their seeds and cast them upon the ground. Their little life is then over. They have performed their part, have done all they could to perpetuate their kind, and then return to their native dust. And so it is with insect life. They come, live their brief day, perform their part in the grand scale of animated nature, and go down to the dust, to be succeeded by others, whose appropriate season had not yet arrived.

If we turn our thoughts more closely to the operations of Nature, we shall not find DECEMBER less efficient in carrying on the grand work of the months than any of her sisters which have preceded her. There is little of decay or death now. Millions of buds are

hidden in the axils of branches, having stored, or are storing up food for the production of future leaves and blossoms and fruits. So millions of roots are seeking new sources of supply, pumping and imbibing and gaining new power, even though winds are chill and the earth is covered with a mantle of snow. These operations are not so obvious as the summer growth; but the summer growth could do nothing without them.

DECEMBER, then, need not be a dark and gloomy season. It has its peculiar bright and cheerful aspects; the cloudless winter evenings; the starry heavens; the crystal snows, contrasting with the evergreen of the pines, hemlocks, spruces and firs. The house-plants, also, become more beautiful and more highly valued than ever. How bright and cheerful they stand in the sunny nooks of the parlor, shedding their fragrance all around them, and teaching us lessons of gratitude and trust.

Then there is one circumstance in DECEMBER which ought to inspire us with a deeper gratitude than any thing in our material life. It is *Christmas*—the festival of the Christian church,—in memory of the birth of Him who brought "Life and Immortality to light." Our English ancestors celebrated this event with the most lively gratitude. They made it a holiday for all, young and old, rich and poor, master and servant. They adorned their houses with green boughs. The whole nation were in as happy a ferment at Christmas, with the warmth of exercise and their firesides, as they were in May with the new sunshine.

This is the way to turn winter to summer, and make the world what heaven has enabled it to be; but as some people manage it, they might as well turn summer itself to winter. Hear what a poet said who carried his own sunshine about with him:—

"As for those chilly orbs, on the verge of creation,
Where sunshine and smiles must be equally rare,
Did they wait a supply of cold hearts for that station,
Heaven knows we have plenty on earth we could spare.

Oh, think what a world we should have of it here,
If the haters of peace, of affection, and glee,
Were to fly up to Saturn's comfortless sphere,
And leave earth to such spirits, as you, love, and me."

"But there is Life in Death. Not in man's inspired writings only, but in every lineament, in every movement of our great mother Earth all around us. All over this globe, Death seems to stalk triumphant. The summer passes away, flowers fade and forests decay; field and meadow are

buried in deep slumber. Broad lands are swallowed up by the hungry ocean, and gigantic mountains sink to be seen no more. But Death has found his conqueror in Nature also. What perishes, rises again; what fades away, changes but form and shape. Sweet spring follows winter; new life blossoms out of the grave."

NUMBSKULLS AND BOOK FARMERS.

The author of "Elements of Agriculture" and writer of the "Ogden Farm Papers" has undertaken to test the principles of scientific agriculture in farm management. It is understood that he is not stinted or cramped for want of means necessary to prosecute such experiments as his theoretical knowledge or his practical experience may suggest. But as time is required for the development of any new system of agriculture, people ought not to be too impatient for results. That some of his country neighbors are not only impatient but impudent we infer from one of his late "Papers" in the *American Agriculturist*, in which he waxes indignant:—

But, unless one has a particularly tender hide, the skiving that he gets in a few years' experience of the twaddle of country neighborhoods will turn his cuticle to leather, and, unless his wits are unusually dull, will teach him the art of chaffing back again sufficiently for his own protection. I generally know, when I write, just about what sort of comments I shall elicit from a class of numbskulls that collect at the Four Corners store on a rainy afternoon for the discussion of book farmers such as I; and I am sufficiently used to the process not to be deterred by it from writing whatever I think more intelligent men may be glad to read.

He alludes to the request that was made sometime since for his "balance sheet" and to some questions more recently asked, and says,—

"Having spent a good share of my time, first and last, gossiping with brother farmers in stores and grist-mills, I am not at all blind to the fact that even simpler questions than these lead to my being hauled over the coals and chaffed about in a sufficiently uncomplimentary way to satisfy any modest man's highest ambition."

George E. Waring as well as Tim Bunker are unfortunate in their association with farmers at grist-mills and the Four Corners' store, and we would advise them to call on farmers in their fields or at their firesides, where any suggestions, however scientific, will be listened to respectfully, though we may not promise that the visitor will not be "hauled over the coals" of a thoughtful inquiry, or that questions will not be propounded that could hardly be expected to originate in skulls that are numb.

POULTRY ON A LARGE SCALE.—The *Rural Neo Yorker* publishes an article from the *London Field*, which characterizes the account of the great poultry establishment of Mme. De Linas, at Charney, South America, in Mr. Wright's Practical Poultry Keeper, as a fiction; and also the story of a great Paris establishment, where it was said the poultry

was fed on cheap horse flesh, which went the rounds of the papers a few years ago. This writer, who is supposed to be Mr. Tegetmeier, regards these statements as "ridiculous sensational stories of impossible poultry farms that never existed except in the fertile imagination of some wretched scribblers, hard up for a subject out of which to earn a few shillings," and he gives some very good reasons for this opinion.

For the New England Farmer.

DOES INTELLIGENT FARMING PAY IN MASSACHUSETTS?

This is a fast as well as a luxurious age. As *money* furnishes the means of fast and luxurious living, so it has become the standard scale that weighs the common events of life; hence the question at the head of this article will be considered and weighed in the pecuniary balances alone.

The subject has been suggested by notes of wailing that have occasionally appeared in the columns of this paper in regard to the profits of farming, which it is feared will foot up on the wrong side of the ledger. The past two years have indeed produced short crops, and perhaps it would be too much to expect to hear songs of rejoicing at the present time. The children of Israel, when a song was required of them, could not sing in a strange land, and hung their harps upon the willows.

If farming pays in the heart of the Commonwealth, ought it not in other sections of the State, in the long run? In this town, (Barre,) there are three cheese factories, which may be designated as Central, Southern and Western. Within the area of a mile of the Central and Southern there is scarcely an instance to be found where a farmer who has devoted his whole attention to legitimate farming for ten years or more, that is worth less than three thousand or five thousand dollars, while some will approach to twenty and even fifty thousand dollars, which has been acquired through agricultural pursuits. As "a live dog is better than a dead lion," I will select some instances of successful farming from representative men. Their names are legion, and there is such a uniformity in a general sense in the amount of business done, in the number of the herd, in selected stock, and to quite an extent in the size and value of the farms themselves, that when these are described a great many more would merit somewhat the same description. Some twenty-five to thirty head of dairy cows is the orthodox number, and part Durham is the ruling grade.

The Chairman of the Board of Directors of the Southern Factory, is Dea. T. P. Root, whose farm lies on the hillside, sloping towards the east, occupying a beautiful and commanding situation, but which it may be presumed is hard to cultivate. Mr. Root commenced operations upon this farm some twenty-five years ago with his father-in-law, Reuben

Haynes, clearing up new land, and if I mistake not the estate was heavily encumbered with debt,—sometimes the hardest of all encumbrances and will make the farmers' heart ache the most—since which time all these have been removed, and the owner of this fair domain "goes on his way rejoicing." Mr. Root has experimented much in manures, sowing grass crops and ploughing in, &c. I omitted to state in the proper connection above, that it is characteristic of all these farms, that the sons, or sons-in-law remain on the farm. The venerable philosopher of the *Tribune*, who has enlightened the world on "What I know about Farming," says, "I can understand very well the reason why the boys leave the farm. Epitomized it is thus: their school books and reading matter contain nothing calculated to interest them in agricultural pursuits, and their fireside reading is not of geological or chemical lore, or related sciences, but of tour-naments, or knightly troubadours, of fairies and sensational fiction." This is true to a certain extent; but it is also true that every improvement made, every stone wall and out-house erected, and every tree planted, identifies youthful affections and associations with these improvements, and is a living prayer to the Heavenly Father that the successor will stick to the farm and beautify it still more. The subject of this short sketch has a goodly family of boys, of which one or more will remain on the farm. I believe in big families of children—that it pays, especially on a big farm—although like some railroad stocks they are not immediately remunerative. During the vernal months this farm, as seen from the village below it, is a perfect *Aradia* of beauty.

Half a mile below is the farm of Luke Adams, which is carried on by himself and son, whose fertile fields show high cultivation. Mr. Adams, senior, has kept a diary for many years, carefully noting every fact connected with his business, and the high culture and successful results of his well laid plans attest the value of this method. The past two years, though a most unprecedented season of drought, the meadows have worn their green mantle as of yore, and yielded abundant hay crops. Mr. Adams, junior, is of the third generation who have occupied the farm.

The next farm is owned and worked by Job Stetson and his son, George Stetson. Ten years ago, or such a matter, Mr. Stetson bought this farm partially on credit, but years ago it was redeemed from all encumbrance. Last year they cut fifteen tons of hay, more than any year before.

The Chairman of the Board of Directors of the Central Factory, is Henry E. Rice, who has a fine place under good cultivation. Mr. Rice, senior, is still living on the old place, and walks about with a firm tread and form unimpaired, at the age of eighty-six years. This is a square built farm with a square built owner upon it.

Another leading farmer is A. H. Holland, belonging to this district, who distributes the manure with a seeming reckless prodigality, which tells at the cheese factory,—his cows rating among the first. No improvements have been spared here; but notwithstanding, the sons will not remain on this farm, although in the march of events a son-in-law may; for it is impossible to conceive that two such flowers as a splendid farm and its prospective mistress, shall bloom in the conservatory of life unheeded and unseen.

There are some five amateur farmers in the town, among whom is the editor of the *Gazette*, J. Henry Goddard, who seldom tells through the columns of his paper, "What I know about Farming," evidently fearing if he acts the schoolmaster, too big boys and too many will come to school.

Poor farms are scarce in this town, but mechanical business is at low ebb, although the southern part has been galvanized into new life by the passage of a new railway, which will soon be in operation. There is no doubt that the force of association and competition contribute greatly to the prosperity of the farming interest in a town like this; but public improvements add very much of their quotas to the general result. The broker understands this when he sets forth prominently in his advertisement of two farms for sale, its proximity to churches, schools and depots. Churches make the best society to be found this side of heaven, and where this interest is indifferently supported, the farms are scrubby, the stone walls tumble, the outhouses decay, and the boys rush away into the shop and are lost to the farm forever. The church *pays* because it compels men to be social, energetic and wholesomely ambitious. There are many who think it pays in other respects, but that will not be considered here. There are some, too, who may think that farming pays in other respects as well as in "filthy lucre;" but those ideas are primitive and old fashioned. It gives an indescribable charm to that fine old Saxon word Home. The New England farm is protected from the fire blast which so terribly desolated the prairie homes of Wisconsin. Its moderate profits and hard labor do not allure speculators who overrun a good business. It gives health and happiness to the farmer.

The question, then, "Does Intelligent Farming Pay in Massachusetts?" may be answered, as Mark Twain says, thusly: it pays if the necessary conditions are complied with—which are public improvements and—private improvements—not forgetting the good, live, agricultural newspaper—for instance, like the one you hold in your hand, good reader; and, let me add, lay on the manure lavishly. As the miller of Mansfield said to his boys in his dying charge, "Get money if you can honestly, boys, but get it." As there is no dishonest way in making manure, it is safe to follow the

the miller's advice, only substituting the word manure for money, which will prove synonymous terms in the end. It DOES PAY; it pays as it paid the Dutchman, who at the breakfast table on the first morning of the hay season, set down with his hired man to a dish of buttermilk and whey. The "help" looked sorrowfully on the bill of fare, eat sparingly, and retired to the hayfields, when hanging his scythe to the limb of an apple tree, he sung with a dolorous pitch—

"Buttermilk and whey;—
No work done to-day."

Next morning the bill of fare was amended by the substitution of bacon and eggs.

After breakfasting heartily he went into the field and sang this merry lay, at the same time cutting down the grass something like a first-class mowing machine:—

"Bacon and eggs;
Take care of your legs."

The ground is your servant who will work for you with a will if you give substantial food—though unlike the hired man it requires food but once a year—but then it craves enough to last all the year round. D. W. H.

Barre, Mass., Nov. 7, 1871.

DEEP PLOUGHING.—The last monthly report on the progress of scientific farming on the Ogden Farm, near Newport, R. I., under the direction of Col. Geo. E. Waring, closes with the following paragraph, as printed in the *American Agriculturist*:—

In general farm matters there is nothing of especial interest to report. We jog along very much as usual, well satisfied of the benefits of soiling, and not especially dissatisfied with our results in any respect, save that, in spite of thorough cultivation and heavy manuring, we still feel the ill effect of the deep ploughing of about ten acres of the farm in the autumn of 1868. For ordinary crops it does very well, probably much better, because of the deep ploughing, but about two acres of carrots planted upon it will bring a very insignificant result, because of the injurious effect of the upturned clay on the delicate and slow-growing seedlings.

BET-SUGAR IN CALIFORNIA.—The Alvarado Beet-Sugar Company are now well under way again in the manufacture of sugar. It is stated that the supply of beets this year will reach 800 tons—16 tons to the acre. The juice yields most satisfactorily. The amount of sugar made last year was 500,000 pounds. This year it is expected to reach 1,125,000 pounds. This will employ the mill about five months. The remainder of the year will be occupied in refining imported sugar. The Sacramento Company will soon be ready for operations. This company expect to realize about 400 tons of beets this year.—*Ag. Rep.*

For the New England Farmer.

THE GARDEN IN DECEMBER.

The faithful engineer of a railroad train keeps a sharp look-out ahead, to see that the track is clear that accidents may not happen. Like him, the good gardener is always on the look-out, and providing for the future. The gardener who neglects his garden as soon as the last crop is off and frost causes vegetation to cease, and gives it no more thought and does nothing to forward future culture till spring opens, is always behind hand; while he who is constantly on the look-out, anticipating what may be, and keeping everything in readiness to take advantage of the changing seasons, always has *early* vegetables, late vegetables, and vegetables throughout the whole season.

Although December days are short and cold, yet there may usually be some time found in which something may be done in the garden at clearing up, pruning, repairing tools, hot-bed frames, sashes, stakes, trellises, &c.; and the long evenings are just the time to get all the information of the best practices of others with which to compare our own. Resolve and plan that the future garden shall excel the past in more respects than one. With the practically useful, let there be a proportion of the ornamental. The latter need not be of the expensive sort, but such as may be done at odd intervals, of home manufacture, from home materials. Rustic seats for some shady nook may be made, from materials brought from the woods. Vases, arbors and other useful as well as ornamental things may be constructed from rough material selected from limbs, branches, &c., of trees and shrubs.

Rotation of Crops and Plan of Garden.

If we would preserve the fertility of the soil in the garden, and still obtain the greatest possible products, we must plan for, and adopt, some rotation of crops — it is as essential here as on any part of the farm.

The best form for a garden is a rectangle or parallelogram; it may then be divided into four equal portions, exclusive of the borders, to be occupied by asparagus, rhubarb, and like perennial plants, by walks through the centre and crossways. Thus we have four compartments, giving us an opportunity of a four-course rotation. No one division can be exclusively devoted to one article, or variety, as we wish to grow so many kinds; but we must group them, so as to occupy the division to which their nature suits them. In the border, some three feet wide with path next inside two feet wide around the garden plot, we have room for beds of small things, as well as for those requiring a more permanent location. Within, we have a rectangle divided into four main compartments, with a narrow border walk. These may, for convenience, be numbered 1, 2, 3, 4.

In No. 1, potatoes may be planted, to be

followed by cabbage and its tribe, transplanted between the rows; after the potatoes are dug the cabbage will occupy the ground, which after the cabbages are removed in the fall, should be ridged, and deeply dug over, so as to expose the soil to the action of winter frosts &c., and permit the free escape of surface water.

In No. 2, Corn and Lima beans. These the second year to occupy the plot No. 1.

In No. 3, plant onions, spring spinach, early beets, early cabbage, transplanted, celery, okra, tomatoes and egg plants. Some of these will have to be planted between the rows of others as intermediate or stolen and succession crops, while the early maturing crops are removed to make room for the later. The second year these crops occupy plot No. 2.

In No. 4, plant peas, string, or snap beans, long beets, carrots, parsnips and salsify. Early crops as removed may be succeeded by turnips, and spinach for fall and winter use. The second year these crops occupy plot No. 3, and are succeeded, the second year by the crops on No. 1, the first year. Thus we complete the round.

There are many kinds grown that are not here mentioned, which are introduced between the others and grown as stolen crops. Our object here being more to suggest a systematic course, by mentioning a few of the main crops. Experience teaches the gardener where and how to obtain best results; and it can hardly be expected that the inexperienced will meet with the same success even though he may have the best theory in the world. Experience as well as good judgement are required in order to know how to adapt fertilizers to crops, how to fit the soil, and in short the whole routine of culture. The mere rotation will do little towards obtaining large crops. There must be skill in adapting means to ends.

CELERY.—Protect the tops by means of leaves or litter. A small quantity may be protected and sheltered by means of boards with straw or hay underneath, and can be reached during mild weather.

COLD FRAMES.—The chief points in successfully wintering plants in these are to give proper ventilation, without too great exposure of cold, and to keep the plants perfectly dormant and yet healthy. Last season letters of inquiry came to hand asking if a bed of snow, as it fell, over the frames would do harm? Snow seldom is injurious to plants in cold frames properly constructed, and may lie on for some weeks without detriment, oftentimes. Mice sometimes are destructive to the plants; give them poison or trap them. Keep shutters and mats in readiness for use in severe weather.

MANURE AND COMPOST.—The winter season is the time for accumulating a full supply of fertilizers. The stables, yard, piggery, privy and hennery, are to be made the most

of by using dry muck, earth, straw, litter and other absorbents and divisors to absorb the liquids and increase the quantity. Fertilizers may be collected from many sources; villages and cities will furnish large supplies of various kinds of refuse, waste, and stable manure, and often may be had at reasonable rates when accessible.

SEEDS.—See that those of home production are well cared for. Clean out all of doubtful quality or identity. Be ready to order those not raised, as soon as Catalogues are out.

TOOLS.—The time of leisure is the time to repair and put in order all implements. If you have no tool room set apart a place at once and fit it with the essentials, so that there may be a place for everything, and you may know when a thing is missing.

W. H. WHITE.

[*South Windsor, Conn., 1871.*

For the New England Farmer.

THE BLOOD, AND ITS CIRCULATION.

In all organized beings—that is, in all beings endowed with life, the process of nutrition and growth is carried on by means of a circulating fluid. In the vegetable kingdom, this fluid is called *sap*; in animals it is called *blood*. The blood of insects is without color, while that of fishes is red in the gills, heart, and liver, but nearly colorless in other parts of the body. In *mammals*, or animals which suckle their young, and in birds and reptiles, the blood is of a dark purple color when drawn from a vein, and of a bright scarlet when it comes from an artery.

Soon after blood is taken from a living animal, it begins to coagulate, or become solid; and if allowed to stand for a few hours, the clot will be found diminished in size, firmer than before, and floating in the midst of a yellowish fluid, called *serum*.

The *serum*, or liquid which remains after coagulation, is composed principally of *albumen* and water. *Albumen* is a colorless semi-fluid when pure, but is coagulated or hardened by heat and by acids. It forms a very large proportion of the brain, spinal cord, and nerves. A good example of this substance may be found in the white of an egg. The *water* of the blood is one of its most important constituents, and forms by far the greater proportion of its bulk,—one thousand parts of blood containing seven or eight hundred parts of water.

The *coagulum*, *clot* or *crassamentum*, which is the solid part of the blood, is composed of *fibrin*, and numerous red particles, called *blood discs* or *corpuscles*. *Fibrin* is of a whitish color, inodorous, insoluble in cold water, coagulates at all temperatures, and constitutes the basis of the muscular tissue. The *blood discs*, which contain the coloring matter of the blood, vary in size and form in

different species of animals. In man, they are little round cells, flattened like a piece of money, and from 1-4000ths to 1-2800ths of an inch in diameter. In birds, reptiles and fishes, they are much larger. Their number corresponds, very much, to the temperature of the animal. In birds, they form fifteen per cent. of the whole mass of blood; in man they form twelve or thirteen per cent.; and in fishes and some of the other cold-blooded animals, they form only five or six per cent. The coloring matter of the blood contains nearly seven per cent. of iron.

The blood is found by chemical analysis, to have nearly the same elements, combined in about the same proportions, as they exist in the animal. It is therefore fitted to carry nutriment to every part of the system, and thus renovate the tissues,—to furnish at one point, the elements of bone; at another, those of muscles; at another, those of brain, and so on. The blood also takes up and carries off, through appropriate organs, all waste particles, and thus maintains in the body a continuous round of organization and disorganization, of growth and decay.

The organs which carry the blood from one part of the body to another, constitute, when taken together, the *circulatory apparatus*, and the course of the blood through these organs, is called its *circulation*. In insects, the blood is sent to the different parts of the body by the alternate contractions of different portions of a central vessel which extends along the back, forming a rudimentary heart. In the crab, lobster, and other members of the class *crustacea*, there is a single sack or ventricle, which receives the blood from the gills or lungs, and propels it to other parts of the body. In fishes, we find a distinct heart, divided into two cavities—an *auricle*, and a *ventricle*. Reptiles and amphibious animals, such as the snake, lizard, frog, crocodile, &c., have two auricles or reservoirs, and one ventricle or propelling organ. In the class *mammalia*, or animals which suckle their young, and in birds, we find a double heart, or what is equivalent to two such hearts as the fish possesses, with a complete double circulation. Indeed, the heart is constructed on the same general plan in all the warm blooded animals, so that the heart of an ox, a horse, a sheep, or a dog, with the entire circulation of blood, may be taken to illustrate those of the human subject.

The heart, then, is the great central organ of circulation; and the double heart is, in form, somewhat like a pear. In man, it is situated in the front part of the thorax or chest, between the lungs, with its base above, and inclining obliquely backward towards the right shoulder, while its apex points forward, and to the left side, between the fifth and sixth ribs, where its beatings can be most distinctly felt. It is surrounded by a firm smooth membrane, called the *peri cardium*, the office of

which is to protect the heart against friction by contact with other organs.

The heart is a large, strong, hollow muscle, the walls of which are composed of fibres running, some longitudinally, but most of them in a spiral direction. It is divided in the direction of its length, into two halves, each representing a single heart, divided into an auricle and a ventricle; thus we have a right and a left side of the heart,—a right auricle and a right ventricle; a left auricle and a left ventricle. The ventricles make up the body of the heart, the auricles being, in reality, only appendages to the heart proper, which serve as reservoirs for the blood. Butchers call them *deaf ears*.

The walls of the left side of the heart are thicker and stronger than those of the right, and the reason is—the right side sends its contents only to the lungs—a short distance—while the left side propels its blood to all parts of the system. The walls of the auricles are also much thinner than those of the ventricles.

The auricles are separated from the ventricles by triangular folds of membrane, which perform the office of valves. Those which separate the right auricle and ventricle are called *tricuspid* valves, because they have three points, and those which separate the left auricle and ventricle are called *bicuspid* or *mitral* valves, because they have two points. There are also three valves at the entrance of the *aorta*, the great artery of the body, and the same number at the mouth of the pulmonary artery. These six valves are called *semi-lunar*, or *half-moon*, on account of their peculiar shape. These several valves are kept in position by small white cords, called *chordæ tendinæ*. The ventricles are separated, one from the other, by a strong muscular *septum* or partition; and within each ventricle are seen numerous fleshy columns, called *columnæ carnæe*. These are supposed to aid in the contraction of the ventricles.

The channels of communication between the heart and the several parts of the body, and through which the blood is propelled, are the *arteries*, *veins*, and *capillaries*.

The *arteries* are cylindrical tubes, composed of three coats. The external or *cellular* coat is composed of condensed cellular membrane, and forms a strong, tough investment to the artery, enabling it to resist the action of the heart. The middle or *fibrous* coat, by its elasticity equalizes the flow of blood through the vessels, and by its contractility enables the arteries to close their divided extremities when they are cut or torn, so as to prevent a great loss of blood, unless the vessel be of considerable size. The internal or *serous* coat is a thin smooth membrane, which permits the blood to flow with the least possible friction. The arteries gradually diminish in size towards their extremities, and finally terminate in minute, hair-like vessels, called *capillaries*,

which are too small to be seen with the naked eye.

The *veins*, like the arteries, are composed of three coats, but they are much thinner, so that the veins do not, like the arteries, retain a cylindrical form when emptied of their contents, but collapse, or become flattened. The veins commence by minute vessels, called *radicals*, which have their origin in the capillary arteries. They unite, one with another, to form larger and still larger branches, until they terminate in two large trunks—the ascending *vena cava*, and the descending *vena cava*—which convey the blood directly to the heart.

The *capillaries*—so called on account of their resemblance to hairs—are so minutely distributed to every part of the body, as to render it impossible to puncture the skin anywhere, without wounding some of them; and so small are they, in the human subject, that a single one of them will not measure more than 1-3000th of an inch in diameter. In the capillaries, the blood is brought into immediate contact with all parts of all the tissues of the body, and in them it parts with its nutritive elements, so that these little microscopic vessels constitute the medium through which the functions of nutrition and secretion are performed, as well as the channels of communication between the arteries and the veins.

Having described the organs by which the circulation of the blood is performed, we will now trace its course through them; and in doing so, we begin at the left side of the heart.

By the contraction of the *left ventricle*, the blood is forced through the *semi-lunar valves* into the *aorta* or great arterial trunk, and along its successive branches—the smaller arteries—into the net-work of the capillaries. Here the blood parts with its nutritive elements, and is changed from a scarlet to a purple color, and is collected into the small veins. It flows through their converging branches into the *vena cava*, and finally into the *right auricle*, which empties it through the *tricuspid valves* into the *right ventricle*.

From the *right ventricle*, the blood is impelled through the *semi-lunar valves* into the *pulmonary artery*. This artery divides near the heart, one branch leading to the right lung, and the other to the left, so that through this artery and its branches, the blood is carried to the *capillaries of the lungs*, where it is exposed to the action of the air. From the *capillaries of the lungs*, the blood enters, in converging streams, the *pulmonary veins*, which return it to the heart and empty it into the *left auricle*, which, in its turn, empties it through the *bicuspid* or *mitral valves* into the left ventricle,—the point whence we started.

The course of the blood from the left side of the heart through the arteries, capillaries, and veins, back to the right side of the heart, is called the greater or *systemic* circulation;

and the course of the blood from the right side of the heart through the lungs, and back to the left side of the heart, is called the lesser or *pulmonary* circulation.

The heart of a man in middle life, whose blood averages about twenty-eight pounds, empties itself of two ounces at each contraction, with a propelling power of about four and one quarter pounds; and the heart of such a person contracts about seventy-five times in each minute, so that in every three minutes, twenty-eight pounds and two ounces of blood pass through the heart,—a quantity equal to the weight of all the blood in the body. It is also estimated that in man, the blood completes its entire circuit through the heart, lungs, arteries, capillaries, and veins, in less than one minute. This estimate is based on the rapidity with which poisons are transmitted from one part of the system to another; but many physiologists suppose the time to be about three minutes, in most persons, and in ordinary circumstances.

The phenomenon known under the name of "*pulse*," is the motion caused by the pressure of the blood against the coats of the arteries at each contraction of the ventricles, so that the pulse and the action of the heart correspond, except in some rare instances. The frequency of the pulse, and of the heart's motions, vary at different periods of life, and in different circumstances. During infancy and childhood, the pulse is from one hundred and fifty, to ninety, or less; in middle life, it is from seventy-eight, to seventy; and in old age, it is from sixty-five to fifty.

The pulse is quicker in women than in men. It is also quicker after, than before eating; and slower during sleep, than when awake; in the evening, than in the morning; in the sitting, than in the standing posture. Fear, anger, and the stronger passions, move the heart to violent action, and accelerate the pulse; while sorrow and melancholy retard them, both in frequency and in force.

J. H. STEDMAN.

West Brattleboro, Vt., Oct., 1871.

FOUL BEE BROOD.

Mr. E. Rood, of Detroit, read a paper at the late Bee-keepers' Convention, at Kalamazoo, Mich., in which he said he had prepared a paper, making it of respectable length and having some regard to details, but that in reality he knew little about the subject, though, perhaps, he was as well posted as any one, as he had watched the disease for many years and had lost a great many colonies by foul brood. He described the disease at considerable length, showing an intimate knowledge of the little industrious insect, but was unable to clearly determine the cause of the disease or give any remedy. It was contagious and would go through an apiary as cholera or small-pox would a human hive of people. He

used disinfectants to prevent its spread and was very careful to destroy bees and honey after a hive had been attacked. He thinks nothing can save a hive of bees after foul brood appears, but something may be done in preventing its spread. He hoped that an effectual preventive or remedy would be discovered, but he knew of none, nor of anybody who did.

When he had concluded, a discussion took place in which a great number of speakers took part, but there was nothing elicited that solved the proposition in the paper.

Report on Hives.

The committee to whom was referred the resolution concerning the requisites of a beehive, submitted the following report:—

1. For out-door wintering, we recommend a hive not exceeding twelve inches in depth, nor less than ten inside of the breeding chamber, for use in northern latitudes.

2. For inside wintering, we consider that a hive may be as shallow in depth as five inches in the breeding department.

3. We believe the breeding chamber should not contain less than 2000 cubic inches actual breeding space, nor more than 2500; the same to be so constructed as to admit of upward ventilation at pleasure, and the entrance to be contracted so as to admit not more than one or two bees to pass or repass at the same time during the winter; believing that a very heavy current of air being allowed to pass through the center of the hive at this season of the year will serve as a cause of disease.

4. We believe that a hive to be cheap in cost to the bee keeper, and at the same time adapted to procuring honey in the comb, or by the use of the mel extractor, should be so constructed as to admit of boxes, of shallow frames, or of frames equal in size with those of the breeding chamber. This we regard as a hive well adapted to general as well as special purposes.

5. We would not under any circumstances recommend or encourage the use of any but the movable comb hives, feeling well convinced that no other method will enable the bee-keeper to make his profession successful or profitable.

VALUE OF MUCK.—In a discussion before the Little Falls Club, Mr. A. L. Fish stated that twelve years ago he drew out 3000 loads of muck, and applied it at the rate of fifty loads to the acre, pulverizing and mixing it with the soil. The result was good crops without further cultivation. Two years later he drew out 4000 loads, and applied it at the rate of 100 loads to the acres, spread with a plank to which was attached a tongue to hitch the team. The land was planted to corn. After taking two crops from the land it was put down in meadow, and it has produced at the rate of two tons of hay per acre ever since,

though before the application it did not yield one ton per acre. It did not act so quickly as manure, but was more lasting.—*Rural Home.*

FAT BREEDING ANIMALS.

Mr. W. H. Southam of Chicago, formerly of England, a great writer for Western papers, and an advocate of the Hereford breed of cattle, who seems to take much pleasure in stroking the fur of Short-horn breeders against the pile, criticises, in the *Michigan Farmer*, the Short-horn stock exhibited at the late Illinois State Fair at Du Quoin:—

The whole of the Short-horns came to show with as much flesh as they could carry—not one of them but was extra Christmas beef, but no prospect of milking or raising calves. I am convinced that but very few of them would produce a live calf, and if so, not a healthy one.

This example was set in England, and would have died out long ago had it not been for Americans and Australians going there with more money than judgment, to buy fat animals, called breeding ones, and made so to hide their numerous faults. English breeders had seen the error of their ways, and were coming to a proper sense of their situation, when foreigners came in with their “almighty dollars,” to outbid Englishmen. The demand for fat animals received, and enormous prices were given for fancy stock, far beyond the reach of a practical man who understood the art of breeding, and was calculated to produce such as were suitable for butcher, consumer, and the dairy. Grand titles were placed upon their heads, and a promise to pay in “bank bills” hanging at their tails. Thus the battle went on—Americans with their almighty dollars, the Australians with their pounds, shillings, and pence, had to contend against the fancy men of England, such as Mr. Betts, and the kid glove men of confectionary notoriety, Capt. Gunter, Col. Townley, of fancy Butterfly fame, Mr. Thornton and Mr. Stafford, as middle men, and many others of more money and less judgment, urging each other on to fame and notoriety, from the extravagant prices they paid. Many animals bought to-day at very fabulous prices died to-morrow with disease, and others who did not breed went to the butcher, or died with a heart encased with fat. Such was the fascinating system of fancy men of money; but where did the profit lie? Where would such men have been, had they had nothing more than their breeding establishment to support them? In that case their moneyed prodigality would have found them out.

REMARKS.—If the case is as bad as represented by Mr. S., how happens it that so large a proportion of all the beef animals

from the West which feed the eastern part of the United States are grade Short-horns?

HOUSING STOCK IN AUTUMN STORMS.

The care of stock during the Winter which is rapidly approaching, is a matter which causes unusual anxiety to the farmer, on account of the short supply of forage and the low price and light demand for stock, which puts it out of his power to reduce the numbers of the latter to correspond with the size of his hay mows without submitting to a very great sacrifice.

Under these circumstances, the only alternative left to the farmer is the practice of rigid economy in the use of the supplies he may have laid up for his cattle in Winter. Many a farmer to-day looks forward with gloomy anticipations to the long New England Winter, seeing no way, even by close feeding, to carry his stock through in a condition to be of any value in the Spring.

There is one precautionary measure, too often neglected, which will be found to assist materially in the difficult task the farmer has in hand. It is the saving of condition and vigor of animals which may be made by a little extra pains in protecting them this Fall. It is a well-known fact that stock coming to the barn in vigorous health and fair condition, is carried through more easily and cheaply, and comes out heavier and better than if it is in low condition and vitality at the opening of Winter. Exposure to storms in the Fall is more injurious to stock than farmers are willing to admit. The effects of such exposure this Fall will be more than usually prejudicial because Fall feed is scanty, and farmers have not the usual surplus of winter feed with which to overcome the injury which may be sustained before the stock comes to the barn. The few pounds of flesh which may be lost by an animal which is forced to remain without shelter in storms of cold rain or sleet, is very slight compared to the diminution of tone and stamina.

We think it good economy, short as the hay crop is, to house and feed farm stock at the barns through cold storms. — *Vt. Record and Farmer.*

BRAN FOR POULTRY.—A correspondent of the *Germantown Telegraph* says, “that the best food to make hens lay is a mixture of bran and middlings. His mode of preparing the feed is to mix about five parts of bran with one of middlings. ‘In the morning,’ he says, ‘I wet up with water about four quarts of the mixture in a large tin pan, taking pains to have it rather dry, though all damp. This I set in a warm, sunny spot, south of their shed, and they walk up, take a few dips, don’t seem to fancy it like, but they soon return to it, and continue to feed from it at intervals during the day.’”

A NEW FARM OUT OF AN OLD ONE.



AMONG the reiterated ones that "farming is unprofitable," the frequent unskilful management of the soil, and the flight of the young from their ancestral acres, it is pleasant occasionally to find the reverse of all this; to see new buildings take the place of old and dilapidated ones; snug, instead of inconvenient barns; substantial and tidy fences instead of sprawling walls, skirted by ages of accumulated weeds and brush; and broad and smooth fields which yield two to

three tons of hay per acre annually, instead of rough, moss-grown "mowings."

When Mr. R. W. Emerson delivered an address before the Middlesex Agricultural Society several years ago, he said, "there is a Concord under Concord," conveying the idea that under the surface so long scraped and robbed, there are large and fertile farms which have not yet been cultivated.

It was our good fortune a few days since to find that one of these farms had been discovered, and it required about half a day to examine it, and learn how a *new farm had been made out of an old one!*

The farm to which we refer, lies in the westerly part of Concord, Mass., is the property of Mr. JOSEPH A. SMITH, and twenty years ago was one of the roughest and most unpromising. It abounded with small stones in some places, and boulders, large loose stones and ledges in others. The "balance" walls had changed their centre of gravity, so that it would be difficult to decide where it was intended to be originally. Their sides were flanked by lines of bushes and briars, affording convenient retreats for woodchucks, from whence to issue to feed upon the beans or clover in the fields, and for hosts of squirrels to emerge into the Indian corn hills.

Six cows, a pair of oxen and one horse, was the usual stock kept upon the farm. The

hay upon which they fed, was mostly swale, that is, from the wet runs among the uplands, or from meadows that were never ploughed. And this, fifty years ago, was the usual style of farming, and was thought to be pretty good. In a great many cases, the amount of stock kept was less than on this farm. The idea of improving the farm so as to feed double the amount of stock, and raise double the amount of vegetables, fruits and grains at the same time, did not seem to have come into the calculations of the owners.

Out of this condition of things, is it any wonder that the idea became popular, that farming is unprofitable, and that the population of the rural districts in New England, has, and is constantly growing less?

At present, on this *new* farm, which consists of about 75 acres, are kept twenty-five cows, young and old, every one of which have been raised on the farm. They are grades of Ayrshire and the old red cattle. Six horses are also employed in farm work, taking milk to the station, and for a portion of the year in the delivering of ice.

All this stock is fed upon fodder cut upon the farm, and some \$200 to \$300 worth of hay annually sold besides. Ten cans, or about eighty quarts, of milk per day are sold through the year. This year, between the 10th of August and the 10th of September, Mr. Smith sent to Boston, by cars, 325 barrels of green corn, pickles and potatoes.

Last year, on about one and a half acres of orchard, he gathered 500 barrels of apples, for which he received \$1.77 per barrel in Boston. This year he had twelve barrels, and of very poor quality!

In addition to these products, he raises vegetables, grapes, strawberries, asparagus, and some of the small grains, and is raising a pear orchard. The dwelling house has been improved, a large and convenient barn erected, together with carriage and other needed out-buildings. Besides these, he has purchased as much land as makes up the home farm, which is devoted to pasture and wood.

On the old farm, the annual products were in a ratio with the amount of stock kept, and about the same condition exists at this time. For instance, the stock has been increased fourfold, and so have all the other products of the farm.

The secret of this great improvement, was in gradually finding the "Concord under Concord," and giving it an opportunity to "bud and blossom as the rose;" and the leading steps in the work, were:—

1. To draw off the surplus water that stood under some of the best land. This was done over about eighteen acres, where some of the grass was cut which went to feed the nine head of cattle on the old farm.

2. On other portions of these swamp lands were alders, birches, and a variety of water-brush common to such places. These were torn out, piled and burnt. The plough followed, some portions were planted with potatoes, and others, not yet sufficiently dry for cultivation, sowed at once with seeds of the best upland grasses.

Thorough drainage preceded all this. Without that, nothing could have been done towards reclaiming and finding the farm that lay "under Concord."

3. These reclaimed lands have been kept in such condition as to produce from two to three tons of hay annually. The oldest of them having been ploughed once or twice, manured, and re-seeded, without being cultivated for any other crop than grass, so that these eighteen acres, in their first and second crop, give about fifty tons of hay each year; enough to fill a good-sized barn!

4. All the reclaimed meadows have been dressed with sand. First, as soon as the water had subsided so as to leave the surface hard enough to bear the team and load; and again as opportunity permitted, a slight coating at each time.

5. In addition to these, they have received an occasional top-dressing of composted manures, old and fine, and aided by small applications of ashes, bone dust, or some other reliable commercial fertilizer. The latter, however, only at a trifling cost.

6. The changes wrought under Mr. Smith's management are no less striking on the high lands of the farm, than they have been in the meadows and swamps. The surface of most of the farm, compared with the surrounding lands, is low. But among the meadows there are abrupt knolls, and patches of upland. These were dotted with bowlders of various sizes; some jutting just above the surface, and rising from that point all the way to four

feet in height. Most of these have been sunk a foot below the surface, or where this could not well be done, blasted and carried off, and the holes filled with small stones, and sand and dressed with loam or manure. Thus, with few exceptions, the plough, mowing machine, tedder and horse rake, have free course over the fields, and are enabled to perform rapid and good work.

7. One side of the farm receives a large amount of surface water, the water-shed above being very extensive. In long rains, sometimes in a heavy summer shower, this land, though quite descending, would formerly be covered with water during the continuance of the rain, and continue so wet through the season as to prevent the growth of any plants but water grasses. Through these runs, Mr. S., has laid tile drains, crooking about among buried rocks, and picking the way through a substratum almost as hard as rock itself. A portion of these now yield two crops annually of fine upland grasses. These runs were not improved by the application of sand, although in some places having black muck underneath.

Such are some of the results of an exploration to find the "Concord that lies under Concord!" If every farm in the town had received similar treatment, its present valuation would be double what it is to-day.

This is one of the cases where progress and profit have been made, *within the farm itself*; where skill and energy have produced the most encouraging results, and not inherited capital. With the exception of supplying ice to a portion of the citizens, Mr. Smith has had no other business than farming; has engaged in no speculations in farm products, horses, cattle or lands, but has always found the earth liberal, responding to his own liberality in a ten-fold degree. His example is valuable, and is a great credit to himself, and equally so to his skilful and zealous co-worker, who manages the internal affairs of the family.

MANAGEMENT OF DAIRY COWS IN HOLLAND.

Prof. Geo. H. Cook, of New Jersey Agricultural College, furnishes the *Country Gentleman* an interesting article concerning Dutch Dairies. One that he visited was 15 or 20 miles from Amsterdam, on a farm of 207 1-2 acres, nearly all in meadow and pasture. The land was at the level of tide water but was well drained. There were 46 head of cattle

kept, of which 26 were milch cows. The average yield of each cow during the year was 4,894 quarts, a daily average of 13.6 qts. This average is remarkably large—and of course much above the general average of the country. The average yield of Dutch cows has been given at 2,835 to 2,940 quarts per year.

Prof. Cook speaks especially of the marvelous neatness of the cow stables which are under the same roof and only separated from the dwelling house by a partition and door. They are not used in summer, and as soon as the cattle are turned out to pasture in the spring, the stables are washed out, the floors either sanded or tiled. During the summer they are sometimes used for cheese rooms. During storms in spring or fall the cows are generally covered with blankets while at pasture. In winter the stables are frequently thoroughly cleaned and washed, and the cows are curried regularly.—*West. Rural.*

EXTRACTS AND REPLIES.

COVE SEAWEED.

I have a pile of some sixty cords of cove seaweed and the mud which is attached to the roots of the seaweed. What material can be added to improve the qualities of this collection, and what proportions and manner of composting? This "cove" seaweed with the mud attached, is a very different thing, and much superior to ordinary shore seaweed, as large numbers of minute animals are attached to the weed.

Last year I manured a piece of quite ordinary soil with similar cove seaweed, composted by mingling twelve two-horse loads stable manure, twelve loads fresh-water muck, that had been exposed to the air and frost a year or two, and 150 bushels of ashes from Maine lime kilns, with about six cords of the seaweed. The result was the best crop of corn I ever raised. I have seen statements that the lime ashes is of small value. Is it so?

Stoughton, Ct., 1871.

C. P. W.

REMARKS.—The compost described above seems to have produced highly beneficial results. All the articles used were excellent as fertilizers. How much influence may be imputed to each, it is impossible to tell. Nor can it be known whether such a compost is profitable, unless we know what the cost of the articles was, and how much land was manured with them. In 150 bushels of lime-ashes, there must have been sufficient alkaline matter to have had a decided influence upon the crops growing on two or three acres of land, unless they were adulterated to an inordinate degree. In listening to a lecture on commercial fertilizers sometime last year, by Dr. J. R. NICHOLS, it is our impression that he spoke of a cargo of lime-ashes brought from Maine. The cost, if we remember correctly, he stated to be twenty-five cents per bushel in the vessel at Boston, and that upon an analysis only five per cent. of alkaline matter was found in them. This cannot be the case, we think, with lime-kiln ashes, as they may be gathered from the kiln. We have supposed the wood ashes and the refuse

lime mingled with them, to have considerable value as fertilizing agents.

It would be hardly advisable to seek a new compound for the seaweed, when it proved so successful with the one already tried.

From a pretty thorough examination of the properties of seaweed, and the modes of using it in this country and abroad, we are inclined to think that it will prove most valuable to the soil when ploughed under immediately after it is gathered.

Among some of our agricultural friends residing near the sea coast in Essex county, it is a common practice to place it in heaps and allow it to ferment before it is used. Others strew it on the cattle yards, in the pig styes, or wherever it will be likely to be broken up. Those who have examined the matter with care, state that this is wholly unnecessary, for there is no fibrous matter rendered soluble in the process, and a part of the manure is lost. The best cultivators use it as fresh as it can be procured; and the practical results of this mode of applying it are exactly conformable to the theory of its operation. It seems that the carbonic acid formed by its incipient fermentation must be partly dissolved by the water set free in the same process; and thus become capable of absorption by the roots of plants. The effects of the seaweed as manure, must principally depend upon this carbonic acid, and upon the soluble mucilage the weed contains.

From what we can learn about seaweed, it appears that its valuable qualities consist largely of mucilaginous matter, and it is supposed that some of this substance is destroyed by the process of fermentation.

In some experiments in England, where seaweeds were subjected to an analysis, no ammonia was found; the ashes contained sea salt, carbonate of soda and carbonaceous matter. Digesting the weed in boiling water, one-eighth of a gelatinous substance was obtained.

When ploughed under the sod, seaweed was found to be a powerful fertilizer, but transient in its effects, and did not last for more than a single crop, which was accounted for from the large quantity of water, or the elements of water, which it contains.

It is stated by NORTON, in his *Elements of Scientific Agriculture*, that seaweed is usually ploughed in green, or applied as compost. In either case it decays very rapidly, unless extremely dry, and produces most of its effects upon the first crop. Many of the seaweeds contain much nitrogen; and this, while it adds greatly to their value as manures, increases the rapidity with which they decompose.

Upon the whole, then, it seems to us that the cheapest and best way would be to plough the seaweed under in its fresh state, sow the ashes broadcast upon the soil, and compost the stable manure with the old muck. Much cost would be saved in manipulating, by disposing of the seaweed and ashes at one handling, and the muck would oper-

ate as an absorbent and divisor in the stable manure. The latter may be used broadcast in the hill, or as a top-dressing.

A NEW CANKER WORM.—HYBERNIA TILIARIA.

I send you a specimen of an insect which I find ascending my apple trees with the canker worm moth. The male moth is yellowish, the female is wingless, and as you will see is very different in form and appearance from the female of the canker worm moth. What is it? The canker worm moths run unusually early this year, and are very numerous and apparently vigorous.

SHEKMAN D. FLETCHER.

Westford, Mass., Nov. 1, 1871.

REMARKS.—The insect received corresponds exactly with the description in Prof. Harris' Treatise on Insects, of a species allied to the canker worm. He says:—

Apple, elm, and lime trees, are sometimes injured a good deal by another kind of span-worm, larger than the canker-worm, and very different from it in appearance. It is of a bright yellow color, with ten crinkled black lines along the top of the back; the head is rust-colored; the belly is paler than the rest of the body. When fully grown, it measures about one inch and a quarter in length. It often rests with the middle of the body curved upwards a little, and sometimes even without the support of its fore legs. The leaves of the lime seem to be its natural and favorite food, for it may be found on this tree every year; but I have often seen it in considerable abundance, with common canker-worms, on other trees. It is hatched rather later, and does not leave the trees quite so soon as the latter. About or soon after the middle of June it spins down from the trees, goes into the ground, and changes to a chrysalis in a little cell five or six inches below the surface; and from this it comes out in the moth state towards the end of October or during the month of November. More rarely its last transformation is retarded till the spring. The females are wingless and grub-like, with slender thread-shaped antennae. As soon as they leave the ground they creep up the trees, and lay their eggs in little clusters, here and there on the branches. The males have large and delicate wings, and their antennae have a narrow feathery edging on each side. They follow the females, and pair with them on the trees. This kind of moth closely resembles the lime-looper or namber moth (*Hybernia defoliaria*) of Europe; but differs from it so much in the larva state, that I have not the slightest doubt of its being a distinct species, and accordingly name it *Hybernia Tiliaria*, the lime-tree winter-moth, from *Tilia*, the scientific name of its favorite tree. The fore wings of the male are rusty buff or nankin-yellow, sprinkled with very fine brownish dots, and banded with two transverse, wavy, brown lines, the band nearest the shoulders being often indistinct; in the space between the bands, and near to the thick edge of the wing, there is generally a brown dot. The hind wings are much paler than the others, and have a small

brownish dot in the middle. The color of the body is the same as that of the fore wings; and the legs are ringed with buff and brown. The wings expand one inch and three-quarters. The body of the female is grayish or yellowish white; it is sprinkled on the sides with black dots, and there are two square black spots on the top of each ring, except the last, which has only one spot. The front of the head is black; and the antennae and the legs are ringed with black and white. The tail is tipped with a tapering, jointed egg-tube, that can be drawn in and out, like the joints of a telescope. Exclusive of this tube, the female measures about half an inch in length. The eggs are beautiful objects when seen under a microscope. They are of an oval shape, and pale yellow color, and are covered with little raised lines, like net-work, or like the cells of a honeycomb.

As these span-worms appear at the same time as canker-worms, resemble them in their habits, and often live on the same trees, they can be kept in check by such means as are found useful when employed against canker-worms.

CATTLE AT LOW PRICES IN MAINE.

We often hear in this locality that cows can be had for \$10 to \$12; yearlings, from \$6 to \$8; good oxen \$60 to \$70; other cattle in proportion, in Maine. If that is so, I wish to buy twenty cows, and some of my townsmen wish to buy other stock. We do not like to start off on such business at random, and would be obliged for information as to the localities at which stock can be purchased at such prices. T. J. BAKER.

Johnson, Vt., Oct. 23, 1871.

REMARKS.—About the time that farmers in Maine were finishing up their haying and wondering how they should make the unusually small crop suffice to carry their stock through the long winter season, their cattle were driven by drought and grasshoppers from their pastures and came up to the barn asking to be fed from the scanty amount of hay that had been secured. Drovers had not then commenced their usual fall purchases. Reports from Brighton market represented prices for beef cattle as rapidly declining, and, in consequence of the short crop of hay and its consequent high price elsewhere, there was little demand for store cattle in any section. Under these circumstances it is not strange that there should have been an alarm and excitement in which cattle were sold at low prices, nor that reports of cattle being offered at still lower prices than were actually accepted should have obtained currency. But as droves were started off and buyers entered into competition with each other, farmers regained confidence and prices soon improved, so that were you to enter the field now as a buyer you would probably find that you were too late to secure animals at the prices you have named, unless you were willing to take those of an inferior quality. The prices reported at Brighton from week to week, with cost of freight, &c., deducted, may be taken as a near approximation to what you would have to pay in

Maine. Oxen are sold at \$60 to \$70 per pair, it is true; and they are also sold at \$100 to \$200, and you will see one pair reported recently at \$250, and the presumption is that at these prices the drovers did not realize an extravagant "drift." Yearlings might probably be had at the prices you name. But cows at \$10 to \$12 per head would probably rank with the "lean kine." Good new milch cows are sold from \$50 to \$85, at retail, in Brighton.

If you wish for more definite information, perhaps you might obtain it by addressing some of the drovers in Maine, many of whom have buyers in different counties. Of the few whose address we remember we may give that of Gideon Wells, Pishon's Ferry, Kennebec county; W. W. Hall, East Dixfield, Oxford county; J. L. Prescott, Farmington, Franklin county; T. J. Savage, East Madison, Somerset county; I. Tozier, East Corinth, Penobscot county; A. H. Clark, Unity, Waldo county.

SALT FOR CATTLE.

Some time since one of your correspondents said he believed salt was injurious to cattle. As it is sometimes fed, I think it may be injurious to them. He remarked that he kept salt in a trough for his cattle most of the time. If put in a trough for them at all it should be kept there constantly. The ox that he supposed died from eating too much salt had probably been without any for a long time, and having a ravenous appetite, ate so much as to cause inflammation of the stomach and bowels, which resulted in death.

A few years since I heard of a similar case. A man kept salt for his stock in a tight trough. A rain dissolved the salt, and his cattle drank the brine, and two died in consequence, as was supposed, of taking so much of the brine. I should consider it risky to leave enough salt at one time for a whole week or longer, under such circumstances. Different animals have different appetites for salt. Some appear to care little for it, others are greedy and ravenous. If my cattle have been some time without salt I take a stick to keep them from me as I deal it out. I have fed salt to my cattle for forty years, but have never been as regular in doing so as some farmers are, because my belief has been that it did but little good or hurt, being a sort of luxury. I generally throw down about a handful to each animal, and usually remain till most of it is eaten.

I once had a pasture some distance from home where I kept a lot of young cattle. When I went to salt them they would come up to me as fast as they could run, on being called. This proves that they love salt whether it does them any good or not. As already remarked I have never been regular in feeding salt,—sometimes giving it weekly, sometimes once in three or more weeks. Last winter I did not feed it more than two or three times during the season, and I never had my cattle do better. Still as they seem to want salt, I like to see them eat it. I never had an animal sick for want of salt, or from eating too much of it, so far as I know.

A dairy woman remarked to me not long since that she could tell when the cows had been salted by the increased flow of milk. But as long as I have kept cows, and as closely as I have watched their yield of milk I have never witnessed such result. I suppose salt will kill hens if they eat too much of it, and I do not know why it should not have a similar effect on cattle. For the

human family, salt alone is not desirable, but we could not well do without it as a seasoning for our food. Everything is good and beautiful in its place and season; for which let us be thankful to the giver of all good, and endeavor to use them as he intended we should.

M. E. GOODELL.

South Amherst, Mass., 1871.

BONE DISEASE.

Your correspondent, Mr. Fisher, in speaking of the bone disease, alludes to the habit of chewing bones, sticks and old pieces of leather, as symptoms of the disease. Having never seen a case of the kind of disease to which he alludes; in fact, having been rather sceptical about its existence, other than in the imagination of some people,—I have supposed it to be something like the horn ail, or loss of the cud, only a symptom of some other disease, and not a disease of itself.

The habit cattle have of chewing bones may be an indication of it in Mr. Fisher's case, but in other sections it is not. In some parts of New Hampshire near the White Mountains it is considered as an indication of the "Burton ail," the remedy for which is rye meal. I believe the cause of the bone disease has been attributed to the want of lime in the soil upon which the cattle are kept. Now the most inveterate bone chawers I have ever known were in the limestone region of Newbury, in this State, where stock is wintered mostly on salt hay. Whether that has anything to do with the habit, I do not know. I am now located on a farm that has been used as a milk farm for nearly or quite a century, and though there is no lime stone here, yet I have never heard that the disease was ever known here, and in the ten years that I have been here I have never seen an instance of bone chewing. Cows taken from a Newbury farm twenty miles distant and brought here have never been seen to indulge in it.

It seems to be a morbid appetite which induces cows—I don't recollect of ever seeing an ox indulge the pastime of bone chewing—to sometimes resort to strange and we should think offensive things to supply a craving for something they do not get in the usual course of feeding. For instance, I have had cows that would pass good clear water on their way to the barn to drink their fill of the nasty green water that stood in the barn yard.

Mr. Fisher's description of the disease would hardly indicate an affection of the bone, as he says the muscles seem to be affected. The remedy, too, would not seem to be potent enough to eradicate a disease of the bone, as I suppose the medical qualities of the soap is contained in the alkali. I wish Mr. F. had told us what is the final termination of the disease, as he thinks that the soap would not cure a case of long standing. In fine, it is so hard to locate disease in the limbs of animals, unless there is an enlargement of the parts, that I am rather doubtful about the bone disease, as I never heard of the caries of a bone in a dumb beast.

Peabody, Oct. 31, 1871. J. L. HUBBARD.

DEODORIZING SKUNK SKINS.

Will you, or some of the readers of the FARMER, tell me a *sure* process whereby skunk skins may be deodorized, and thereby rendered fit for use? I hope no one will pass this by, thinking it unworthy of notice, but rather, if they know of a method, will give it, thereby obliging *one*, if not more readers of the "FARMER." "READER."

REMARKS.—Among all the animals figured and colored to life, in Audubon's splendid work on the "Quadrupeds of North America," no one is more beautiful than the Texan skunk. The whole of the long hair, including the under fur on the back,

and the tail on both surfaces, is white. This broad stripe commences on the forehead about two inches from the point of the nose, running near the ears, and in a straight line along the sides and over the haunches, taking in the whole of the tail. The nails are white; the whole of the under surface of the body black, with here and there a white hair interspersed.

This Texan variety is more beautiful than those found in New England, but the latter are very handsome when seen in their native haunts. At some seasons the hair is long and thick, and the fur beneath quite fine and soft. The skins are purchased by furriers and are used in many forms of work.

How they can be thoroughly divested of the odor which is sometimes imparted to them, we do not know. Burying the skins in a moist loam in the garden, for three or four days and then taking them out and exposing them to the air for a day or two, and then burying them again, and so changing for a few times, we should think would accomplish the purpose desired, and not injure the skin.

If they are *instantly* killed, there would be no offensive odor in the skin. This may be sometimes done by shooting them and hitting the brain. If in a hole like that of a wood-chuck, they may be drowned out by collecting a considerable quantity of water in tubs, and turning it in at once. The moment they appear at the mouth of the hole a rap between the eyes will destroy all sensation, and there will be no odor. We have seen this done. Perhaps some reader of the FARMER may be able to answer the question of our correspondent.

CHEMICAL REASONS FOR SAVING LIQUID MANURE.

Much has been said about the saving of liquid from the barn or stable. But there is no doubt that many of your readers do not understand the chemical reasons why the liquids should be saved.

Chemistry tells us that ammonia is one of the most active elements of manure; it is produced by putrefaction of all organic substances containing nitrogen, and as it is highly volatile, it constantly tends to escape into the air, where it is lost. The fluid excretions of animals evolve it in large quantities. If these are collected in tanks, and sulphuric acid added, fixed sulphate of ammonia is formed in the liquid, and all the ammonia is thus saved for farm use. Sulphate of lime, (plaster,) and sulphate of iron also serve to fix ammonia.

The application of ammonia increases luxuriance of vegetation. It enters the roots of plants dissolved in water, and, according to Liebig, is absorbed by the leaves from the air.

I am a reader of the FARMER and hope sometime to be a farmer myself, but am at present

A YOUNG STUDENT OF CHEMISTRY.

Boston, Mass., Nov. 7, 1871.

EXPERIMENTS WITH SUPERPHOSPHATES.

According to promise I will now write you the results of my experiments with five kinds of superphosphate of lime in comparison with ashes, with plaster and with nothing.

In the first place, I planted one and one-half acres of pop corn. There were thirty-two rows;

six rows of each of the phosphates, and one row of ashes, and one row of nothing. The land was sandy loam, with no perceptible difference in the quality. I gave it the same care, and this is the result.

Wilson's Ammo'd Phosphate	6 rows produced	5½ bu.
Bay State Bone	6	8½ "
E. Frank Coe's	6	10½ "
Bradley's	6	13½ "
Cumberland	6	13½ "
Ashes	1	3 "
Nothing	1	1½ "

I could see no difference through the whole season between the Cumberland and Bradley's, but the Wilson's was a failure from the first. The Bay State bone started the best but did not hold out till the end. The ashes were made from a mixture of pine and hard wood, the greater part pine.

I also tried potatoes the same way, only I took three rows with each of the phosphates, an each with ashes, plaster and no fertilizer, with the following results:—

Nothing	6 bu.	Bay State Bone	9 bu.
Plaster	8½ "	E. F. Coe's	7 "
Ashes	9 "	Bradley's	8 "
Wilson	6½ "	Cumberland	9½ "

Of the potatoes, those on the Bay State Bone were the largest in size; those on the Wilson's were the smallest; those on the Cumberland were the most even in size; those on the ashes showed the least rot, and those on the plaster were the whitest. There were less small ones where there was nothing than on the Wilson's Phosphate, though there were three pecks more in the whole of the latter.

The land on which these crops grew was an old field badly run out and no other kind of manure was used. The cultivation was the same on the whole, and every effort was used to give a fair and impartial trial. I give the results, and readers can judge for themselves.

H. W. LORING.
Lexington, Me., Oct. 30, 1871.

RYE FOR MILCH COWS BEFORE CALVING.—

George C. Kirtland writes the *Rural New Yorker*, recommending that for each cow to calve the herdsman should procure a half bushel of rye, grind it if convenient, and commence, two weeks before calving, to feed a single handful of meal upon which a gallon or more of boiling water has been poured. Feed when cold, increasing the amount both of meal and water, so as that the cow shall have consumed the half bushel of rye about the time of calving. If the rye is not ground, boil it until the grains will mash easily between the thumb or finger. Mr. Kirtland has practiced the above treatment for about fifteen years, and has had no ills to cure in his cows after calving.

DESTROYING WORMS IN POTS.—The worms in pots may be destroyed by stopping up the holes in the pots with corks, and watering with lime-water until it stands on the surface. The lime-water may remain for an hour; then, on removing the cork it will pass off. The lime-water may be made by pouring thirty gallons of water over ten pounds of fresh lime. Stir well up, and allow the whole to stand two or three days; then employ the clear liquid.—*Journal of Horticulture*.

NEW HAMPSHIRE.

At the autumn meeting of the Board of Agriculture of New Hampshire at Concord, October 17, arrangements were made for holding at least one farmers' meeting in each county of the State during the coming winter, for the discussion of agricultural subjects.

The first meeting was appointed at the Agricultural College, Hanover, on the 14th and 15th of November. But we learn from the *Mirror and Farmer* that Prof. Dimond requests that the meeting there should be postponed until January or February.

It was proposed to hold the next meeting at Concord on the 16th and 17th of December. The following places have been selected for other meetings, and the times will be as near the dates here named as practicable: At Tilton, Dec. 5th and 6th; Moultonboro', Dec. 6th and 7th; Conway, Dec. 19th; Rochester, Dec. 20th; Durham, Dec. 21st; Walpole and Fitzwilliam, first week in January; Littleton and Lancaster, the third week; Hillsboro' Bridge, the last week in January; Newport and Claremont, the first week in February; Epping and Exeter, about the middle of February; and at Manchester, at a time to be arranged by a special committee appointed by the Board, and a similar committee of the State Society.

Some one member or more of the Board will be present at each of these meetings, and at some of them the full Board will be present.

We have also received a copy of a circular signed by James O. Adams, Esq., Secretary of the Board, addressed—not to the farmers of New Hampshire, but—to "The Friends of Agriculture." Would the secretary of an association of blacksmiths who desired to collect statistics of the craft and information as to the condition of the craftsmen address his circulars to the *friends* of blacksmithing? Would not every blacksmith feel himself personally slighted by such an address? And should we be surprised that the secretary had cause to regret the neglect of his correspondents to respond to his inquiries?

The difference between these forms of expression may at first sight appear too small for serious criticism. And so perhaps might the difference between the various conversations that the mother bird in Aesop's fable listened to. But so long as the owner of that field talked about getting the assistance of his "friends" to harvest it, she told her nestlings they might lie still and slumber; but when he decided to take hold of the work himself she told them it was time to move.

And until farmers themselves shall co-operate with Boards and Societies, we have little hope that much will be accomplished by all the "friends of agriculture" in the country, or by the multitude, however numerous, "who are interested in the success of the farm."

Though objecting to what we consider unfortunate expressions in the circular, we believe the

Board desires to secure the counsel and co-operation of all cultivators of the soil in the Granite State, and most sincerely hope that the proposed meetings in various parts of the State will prove to be assemblages not only of officials and those "interested in agriculture," but of those who are practically engaged, heart and hand, in farming.

Mr. Adams solicits information in regard to crops, the weather, insects, farmers' clubs, prosperity of farmers, &c. He furnishes a form for a farmers' club constitution, and says, "we feel it to be a matter of great importance to the farmers to sustain clubs in all the towns of the State, for the purpose of discussing their material interests, holding local fairs, and protecting themselves against the tricks of 'sharpers,' or imposters in various departments of trade."

—John Buckman, of Winslow, Me., raised twenty-eight bushels of wheat on three-quarters of an acre of old pasture land broken up a year ago last spring, planted with corn, manured in the hill with plaster and ashes, and sowed with five pecks of wheat, about the 15th of last September. The wheat was sold for \$70 for seed, and the straw, \$32 cwt. for \$17 60.

DOWN EAST WOOL.—The *Angusta Journal* says that a shipment of fleece wool from Aroostook county has just been received in Hallowell. It was bought principally in Presque Isle, and was carted to Mattawamkeag, a distance of one hundred miles, and thence came by railroad. After adding all expenses the wool does not cost quite as much as the same quality bought here. It is a long staple, and is used in the manufacture of delaines. It is nearly all "tub-washed," and is the second shipment received in Hallowell this season.

For the New England Farmer.

ADVICE FROM AN OLD FARMER.

I am now more than four score years old, but my interest in the improvement of agriculture increases with my years. I thought I would give you some of my experience in farming,—if you think it worth laying before your readers, you are at liberty to do so. I hope it will be the means of inducing others to stick by the homestead with a determination to improve it and take care of their parents. I have not a doubt that they will succeed if their desire to be useful is stronger than mere money-getting.

My father gave up the management of the farm to me when I was twenty years old. It had been managed as was usual in this neighborhood at that time. He was always complaining that he had the poorest farm in the neighborhood. I determined to improve it as fast as I could get the means. Upon the death of my parents, my brothers and sisters

had the largest half of the farm. I then began to improve by manuring higher and trying to keep the weeds down, and have succeeded so far that I do not allow one to go to seed if I can help it. I think one day spent in keeping weeds from going to seed this year, will save four days in killing weeds hereafter. I would advise all old and young not to be so bound to their old practices as not to be willing to try new improvements. I have changed my system of management more within ten years than I did in fifty years before. I hire my help by the year, and find it will not pay to cultivate more land than I can manure and tend well and get in order to bear a good crop of grass when I put it down. The greater part of the land that used to be occupied as pasturing, is very ledgy, and pine wood grows spontaneously upon it. I think it more profitable to let it grow, for I believe it would be a benefit to the public if we let more of our land grow to forest trees, and what we keep for grass and cultivation manure well and keep the weeds down.

I keep five cows, two oxen and one horse. The oxen and horse are kept in the barn when not at work. The oxen fed chiefly on salt hay; the cows are fed well with green fodder night and morning. I raise clover to feed the cows, beginning to cut about the 10th of June. The second crop comes on and lasts until we have plenty of corn fodder.

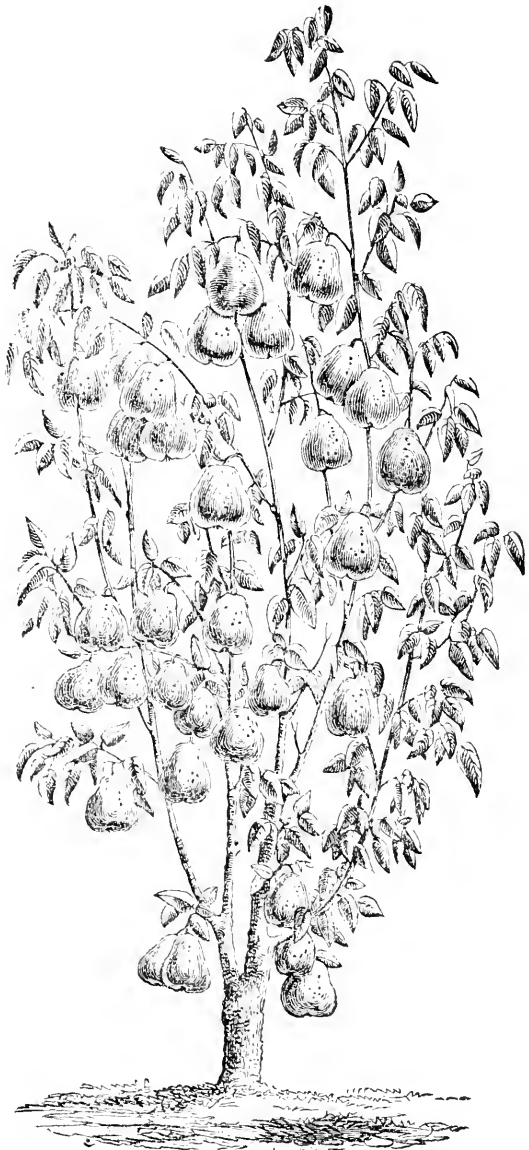
I like to read your reports of great farms and men of great abilities to manage them. I hope my experience will encourage those of small means to persevere, for we of small means may be just as useful members of society if we improve what talents we have, and should be equally respected.

I think I have all the enjoyment of the present life I can have while I remain in this poor old worn out body. I am trying to solve the labor and capital problem according to my ideas of right. I wish my hired help to feel themselves my equals in every respect. I need their labor as much as they do my money.

THOMAS HASKELL.

West Gloucester, Mass., Sept. 19, 1871.

—Rhode Island has not raised apples enough this year to make the usual number of pies; while Michigan cannot find barrels enough to hold her crop, and is selling at \$1.00.



DWARF PEAR TREES.

A few years ago there was a great excitement about pear trees on quince stocks, and shiploads of dried-up looking things were imported from France and sold here by wholesale and retail. As usual in such cases, the fever was followed by a chill, and now but little is seen or heard of French dwarf pears; perhaps not as much as their peculiar merits deserve. For general culture the pear stock is undoubtedly the best. But the small amount

of space required by a dwarf pear tree and its early bearing, are advantages which warrant the planting of a few in the garden, as curiosities and pets as well as for the fruit they may yield. Our cut is designed rather to illustrate the theoretical than the practical, as a tree that should be allowed to produce the amount of fruit represented would be likely to exhaust its powers if not its vitality. The best cultivators thin out the fruit severely, and find that a few nice specimens will sell for more money than a much larger amount of inferior fruit.

For the New England Farmer.

PORK-MAKING IN MASSACHUSETTS.

In the FARMER of July 15, friend Fisher, of Franklin, refers to a statement of mine in regard to feeding and selling pork. He says he quotes from memory and the language may not be quite correct, but the idea is given. The article to which he referred is in the FARMER of June 3, where I said that, "I find it impossible to keep exact accounts with dairy stock. I can buy a pig for \$10, feed him \$10 worth of meal and sell him for \$25, and know that I have made a profit of \$5, allowing the value of the manure to be equal to the cost of labor of taking care of him."

Now I must say to your Franklin correspondent that I was not intending to discuss the profits of pork-making at all; but only used those figures to show how much more difficult it is to keep a correct account with a dairy than with a pig, because an account with a pig can be commenced, and finished up in a few months,—while an account with dairy stock must run through several years, and *estimates* must be made of the value of the animals at different times, instead of prices found by actual purchases and sales.

However, as hogs are now the subject of discussion I will say that I do not think my figures were very extravagant in allowing a profit of five dollars on an animal. By referring back to old accounts with my swine, I find even better returns than that.

One year I bought, April 3, two pigs, weighing 43 1-2 pounds each, for \$5 a piece, or \$10, and fed grain to the value of \$15.88. Oct. 28, sold 632 pounds of pork at 6 cents per pound, wholesale, amounting to \$37.92; giving a gain of \$6.02 on each hog. The meal averaged that year \$1.33 per bag of 100 pounds.

The last few years I have sold my pork at retail and have done better with it,—saving to myself the profits that would have gone to the "middle men." As Mr. Fisher says, I am a butter-maker, and feed sour milk to my pigs. He sells his milk, and of course has to buy most if not all he feeds to his swine. If I were selling my milk I would keep very few if

any hogs. Certainly no more than enough to supply the family demand.

Having plenty of skimmed milk through the warm months, I have considered I was getting something for it when fed to pigs. I think, however, that farmers generally place too high a money value on a quart of milk for hog feed. One of the best experiments I ever made did not pay over two-thirds of a cent a quart for the milk fed to a pair of hogs during their whole growth. The younger the pigs the more the milk is worth. For this reason I have always endeavored to buy very young pigs and grow them myself in preference to buying shoats; and for the last two or three years I have kept no hogs during the winter, because I could sell all my milk during the cold weather for family uses. Last spring the prospects looked so unfavorable for pork-making, I was tempted to pour my milk directly on the manure heap and thus save the labor and care of feeding hogs.

Old habits are strong. I am not certain as I could ever make up my mind to use sweet Indian meal as a manure, as some of the Western Massachusetts farmers are said to have done with profit. It *ought* to be worth more as food than as a fertilizer; and so good, sweet or sour milk, after taking off the cream, *ought* to be worth more as food for either man or beast than as a fertilizer. So I bought three pigs the first day of last April. Small pigs were scarce and high. Six weeks old suckers brought \$6 a piece, even if they would not weigh more than 25 pounds each. I had at that time milk enough to have fed a dozen of that size for a few weeks. I concluded to buy three larger ones instead, that weighed 75 lbs. each at \$10 apiece.

And now I can tell brother Fisher just how profitable pork-making has been to me this year. Supposing I sell at wholesale prices for round hogs, the account would stand thus:—

April 1—To 3 shoats, at 75 lbs each . . .	\$30 00
58 lbs. meal, at 77 20-58c . . .	44 86
263 lbs. shorts	5 94
	<hr/>
Oct. 19—By 3 hogs, wt. 308 lbs each, @7½c.	69 30
Loss	\$10 60

The highest price I have heard of any hogs being sold this fall is 7 1-2c. per lb., and I have dressed one of mine and it weighed as above. I could not through the whole time of feeding tell one from another, and I have been perfectly satisfied with their growth. Perhaps others, by using cooked food, could have done better.

Every one knows that the past season has been a losing one for all pork-makers, unless it is made from what would have been wasted if it had not been fed. But if one believes in pork-raising, he must not give it up because of one poor season. There is every reason to believe prices will be more satisfactory before another crop of pork comes on the market.

I do not, however, believe in pork-raising

here in Norfolk county as a paying business, only so far as it works up materials that would otherwise be wasted. One of my village friends told me this week that he had for many years grown his own pork in preference to buying it, on account of the better quality, but that he had never fattened but one hog that did not cost him more than it would bring in market, and that only gave a profit of a few cents. I hope your Franklin correspondent will accept this explanation, and excuse my delay in answering his question, as I wished to give him and your readers a correct report of the profits of making pork this year. A. W. CHEEVER.

Sheldonville, Mass., Oct. 21, 1871.

For the New England Farmer.

WEEDS.

The organism which plants have in common with animals is not the only point of resemblance between the two; for in their natural tastes, qualities and habits, there seems to be a similarity, so that certain plants, like certain persons, suggest to us the idea of modesty, contentment, persistence, boldness and the like; and it is some such special tendency that gives to plants more or less prominence as pernicious weeds in cultivated grounds.

There are many, that with the most favorable circumstances, would never become really injurious, while others seem to improve the slightest opportunity to obtain a "citizenship."

Among the specimens of this description, perhaps the one best known in New England, is the white weed, (*Leucanthemum vulgare*.) though in some localities there are others equally persevering; for instance, the yellow broom, (*Genista tinctoria*.) at Danvers, that from a single root brought by a true-hearted Scotchman, as a memento of his native hills, now covers whole fields to the exclusion of grasses and useful plants.

The St. John's-wort in some soils inclines to supplant other vegetation. The toad flax, (*Litharia vulgaris*.) too, intrudes itself about our gardens and the borders of fields.

The wild carrot, (*Daucus Carota*.) also is making rapid incursions where a few years ago it was unknown. Another "immigrant" is the purple cone flower, (*Rudbeckia hirta*.) which was undoubtedly introduced in grass seed brought from the West, where this plant is an old inhabitant.

There are many others, less showy but equally pernicious, such as the Roman wormwood the fleabane, the pigweed, the princess' feather, smart weed, and purslain; this last covers the ground with astonishing rapidity and is very exhaustive to our gardens.

Now I would not have this class of vegetable exterminated entirely, they have their place in the world, and like the passions and appetites of humanity if they are servants and not masters, they are a blessing instead of a curse. I would allow these hardy "self-reli-

ants" to beautify our country road-sides and waste places, but if every farmer would promptly oppose their first appearance in his cultivated grounds, they would find their true position, and he would be saved great trouble in the future. H.

Georgetown, Mass., Sept. 23, 1871.

REMARKS. — The spread of a single root of the "yellow broom," mentioned by our correspondent, is sufficient, we think, to caution farmers against allowing pernicious weeds a foothold in our country roads and waste places. The sides of the highway through the farm will furnish seed enough to plant a whole neighborhood.

For the New England Farmer.

FALL PLOUGHING.

BY EMORY A. ELLSWORTH.

While the autumn days are growing shorter and shorter and another month is drawing swiftly to its close, the farmer must likewise finish his work, as each day is bringing him one step nearer that time when winter will cut short all his out-door operations.

The potatoes have been dug; those who have been blessed above their neighbors, in having apples, have gathered them; the mangolds and rutabagas will soon be harvested, and the corn is ready for the husking; but in all the haste which swiftly shortening days and the near approach of winter brings upon the farmer, the fall ploughing must not be neglected.

Geologists tell us that the entire surface of the earth was originally covered with a solid crust of rock, and from this, by decomposition, our soil has been formed. The principle, therefore, that the finer the particles which compose the soil are broken up the more fertile the soil becomes, follows directly, and is based upon this geological fact.

Nature is always ready to aid man when he will act in accordance with her laws, and especially is her help required in thoroughly pulverizing the soil. The same processes by which it was originally formed can always be used to improve it.

The principal pulverizing agents are,—1. The action of frost; 2. The action of water, and 3. The chemical changes of the constituents of the rock.

In order to hasten this decomposition, as well as to render the soil more porous and mellow, men have resorted to different methods of mechanically pulverizing it; among the more important and universal of which is that of ploughing. If, therefore, this mechanical method is so applied that these agents are aided and hastened in the accomplishment of their work, much more beneficial results may be expected.

Ploughing in the fall, therefore, especially for heavy lands, is the best means for securing the action of the frosts of winter and the rains of spring to decompose and disintegrate the particles of the soil. I have heard individuals say, however, that they would not have their lands ploughed at this time for the reason that, when the ground is not covered with snow, a great deal of the soil is carried away by winds; but from a long experience it has been found that lands ploughed in the fall, especially if the manure is put on, can be worked much earlier in the spring, besides being in a much better mechanical condition than when turned over and immediately planted. For this reason alone, if not for other advantages, many farmers would find it very much to their convenience to adopt it, since in many portions of New England, farmers find it almost impossible to get their corn planted early enough to have it well ripened before the early frosts attack it.

Another advantage of some importance is, that our teams are in a much better condition to do this work now than in the spring when the warm weather is coming on. They have been in the barn all winter, and when taken out to work it requires some time and exercise to recover their full strength, while it is always a noticeable fact that they feel this work much more then than now.

Weeds are more easily and completely kept under control, also, when the land is turned over in the fall, and where farmers are so unfortunate as to have witch grass, (*Triticum repens*), in their land, they will find that it can be considerably backened and subdued by turning up the roots to the action of the winter's frost. It would be well when this troublesome pest abounds, to plough two or three times in the fall as well as to harrow it. Then, as soon as the ground becomes settled in the spring, plough and harrow every few days from the time it starts well until it is completely subdued. If it requires a whole summer, the land will be enough richer and better broken up to pay the farmer for his work, while the weeds can be effectually subdued by this process.

And, finally, when we consider that by ploughing in the fall we are aided in our efforts by those forces of nature to which we owe all our soil, and by whose action the soil is constantly made more and more fertile; that much time is saved, in that we can commence operations much earlier in the spring upon our lands when thus treated; that our teams are better prepared to perform this work now than in the spring; that many weeds,—the worst enemies of the farmer,—can be effectually got rid of by it,—is not fall ploughing worthy your trial and adoption as one of the improvements in the cultivation of the soil.

*Maplewood Farm,
Barre, Mass., Oct. 16, 1871.*

ADULTERATION IN BUTTER.

Thousands of pounds of butter are daily sold in the city of New York, which are adulterated with a substance made from cotton-seed oil. It is creditable to the farmers, as a class, that they are not open to the charge of adulterating their produce; yet they suffer from the dishonest competition of dealers who make up and sell these fraudulent compounds, and by so doing affect unfavorably not only the sale but the character of the genuine article. As a matter of curiosity we describe an artificial compound which was manufactured in Paris to supply the want of real butter during the late siege. The refuse materials left after the manufacture of stearine from fatty animal matters, such as tallow, &c., consisting of an oily paste, composed of oleine and margarine, were washed in water acidulated with muriatic acid for the purpose of bleaching it. It was then subjected to the action of a chemical solution for a period of three hours, during which it was made to acquire the taste and color of butter. This substance, manufactured without any assistance from the cows, was considered an excellent substitute for butter, and was readily accepted in place of it by the people, who considered it much superior to any other artificial product of this description.—*Scientific American*.

CORN FODDER.

The opinion we have always held upon the question of the value of green corn fodder for milch cows has been, that when raised from broadcast sowing it is nearly worthless, but when sown in hills or in drills, and cultivated, with access of air and sunlight, it is of high value.

During the present season we have made some experiments to test the correctness of these views. Stalks were collected from a field where the seed was sown broadcast, and also stalks growing in drills upon the same field, and they were dried in a drying closet to expel the moisture. Both specimens were planted at the same time (the 6th of May), and it was found that the plants from the broadcast sowing contained 92 per cent. of water, those from drills 83 per cent. of water. Thus it was shown that the difference of solid matter in the two was relatively as 8 to 17 per cent. The solid matter was composed of starch, gum, sugar, and woody fibre. There was almost an entire absence of sugar and gum in the stalks from the broadcast sowing, while the stalks that had grown under the influence of light and air held these nutrient principles in considerable quantities. The stalks were collected at the period of growth just before the ear begins to form, a period when most farmers commence to cut the fodder for their cows.

Our experiments upon corn fodder have afforded us important information upon other points. We find that the stalks cut before they

reach a certain stage of growth are deficient in nutrient matter, and therefore it is a waste to feed them too early. The corn plant, like all other vegetable structures, has but one object or aim in its growth, and that is to produce seed. It is engaged during its whole life in storing up large quantities of starch, which is to be used when the pressing occasion arrives, or the seed vessels mature, to form by some subtle mysterious changes the rich nutrient principles which are found in seeds. As soon as this struggle is over, the corn plant, like all annuals, dies a natural death. It is not necessary for frost to strike it; it dies from simple exhaustion.

The proper time to cut and feed corn stalks is during the four or five weeks which succeed inflorescence, or in other words they should not be cut until the flower is fairly developed, and the ear commences to form; and any corn that is so planted that the ear cannot form and mature is *practically worthless as fodder*.

Farmers may learn from these facts that corn designed to be cut for fodder should be planted at two or three periods during the season; some fields quite early, others somewhat later, and still others as late as is safe. In this way, when the hot, dry months of July and August are reached, and the pastures falter, a supply of fodder is secured, at a proper stage of growth to afford the largest amount of nutriment.—*Boston Journal of Chemistry*.

PURE BREEDS.

It seldom occurs that topics of farm business afford a subject of conversation among the general public; yet this year the extreme prizes for thoroughbred stock have been continually remarked, even by those who know scarcely anything of cattle. One thousand five hundred guineas [about \$7,500] for a six year old cow, and two thousand five hundred guineas for a pair of two year old heifers, may well cause surprise. These sums were actually paid, and with no luck penny, for pure short-horns bred by Mr. Booth and Captain Gunter. At Oxford and Yorkshire shows, other high sums were paid—the first prize yearling heifer sold for 500 guineas, and the second prize 350 guineas. Twelve guineas were paid for Leicester gimmers [that is, a female lamb, just weaned]. Cotswold command similar sums, and even pigs sold as high as thirty-five guineas each! But these prices, high as they seem, fall in the shade when 5800 guineas were paid for the thoroughbred Glad-iateur.

It may be asked how such prices came about? Is there a scarcity of stock? or is the axiom of "fools and their money" found to be truer as it grows older?

Scarcity of animals of certain pedigrees there undoubtedly is, hence the rise in the market for animals of pure Bates and Booth tribes; but there is not such a scarcity of thor-

oughbred stock. The slaughter of continental cattle may have caused an increased price for graziers, and thus tempted farmers to breed more than to buy in and graze. Moreover, our agriculturists are every day becoming more enlightened as to the profits of improved stock, and selection in breeding the lower animals. Every huntsman knows the value of propagating certain qualities of scent and endurance in the kennel. Of how much more value, then, is it to the farmer to breed animals whose very management alone tends to benefit his business? In keeping stock, well bred cattle get done a little better than common things; it is a well known fact that animals fed well when young never lose their calf flesh. The better keeping leaves a richer and larger quantity of manure, which, in turn, produces better crops of grain and roots. Many men in our own district have long since known the benefit of this. The late Earl Ducie was one of the first to make it apparent to an eye witness, and the Royal Agricultural College still demonstrates it. But, argues the doubter, who can compete with a lord in buying pedigree stock at such prices? It don't pay. The late Mr. William Hewer, at Seven-hampton, for thirty years proved that well bred stock would pay. He bought large-framed pedigree cows, showing dairy properties, and put them to the best bull he could purchase. In this way he produced a class of stock that would give their twenty-five quarts of milk a day, and when dry, feed in a short time to upwards of 150 stone. [In weighing animals a "stone" is 14 lbs., but varies in other articles.] The same way with his stock of Berkshire pigs, by judiciously selecting, and feeding them well when young, he brought out swine that won the first prize at the Royal shows for years in succession.—*Eng. Country Gentleman's Magazine*.

A POUND OF MILK.

The *Country Gentleman* says:—A correspondent who criticises the very excellent custom which has become almost or quite universal at butter and cheese factories, and is rapidly spreading elsewhere, of reckoning milk by the pound instead of by the gallon, is not aware of the origin of the custom, and is in error in basing his criticism upon the supposed fact that everybody "knows what is a quart of milk." There are several standards as regards measures of capacity, especially the wine gallon of 231 cubic inches and the beer gallon of 282 cubic inches. One of these is sometimes used and sometimes the other. In the early history of the factories, farmers were often induced to give beer gallons instead of wine gallon, because they wished the price per gallon to be nominally as large as possible; and the system of buying and selling by measure rapidly came into disfavor. A pound is a standard weight, and has the same meaning wherever

er the English language is spoken. The bulk of a given quantity of milk, moreover, will vary with its temperature, and we have had occasional doubts whether the froth is not sometimes "counted in," when the number of quarts yielded is measured warm from the cow, for the information of the public. As to comparison of weights and measures it is common to regard a pint as a pound, but a careful correspondent of the *Country Gentleman* lately stated, as the result of numerous trials, that a quart of milk will average 2 1-5 pounds in weight, and when thoroughly cold, that he had found a quart to weigh nearly 2 1-4 (2.23) pounds.

ANALYSIS OF SOILS.

In a recent lecture on the subject of soils, Dr. Voelcker vigorously, and sensibly as he always is, opposed the belief that soil analysis alone can determine the kind and quality of fertilizer required for a given crop. To those knowing little of the teachings of modern agricultural science, it appears very simple to remedy a deficient soil by finding out through analysis the wanting constituents, and then to supply them. But this is not so. It is not only difficult to exactly analyze a soil, but many other things besides its chemical composition have to be observed. The state of combination in which the mineral constituents of a soil are found, its physical condition, the presence or absence of substances injurious to the growth of plants, are so many points of great importance upon which soil analysis casts a very dim and uncertain light. The fertility of the soil cannot be maintained, much less increased, if only as much of fertilizing constituents is applied to the land as was removed by the crop. Waste takes place in various directions, and one important source of this is through the process of drainage. Careful collection and examination of drainage waters has shown that a large proportion of nitrogen is carried off in this way, chiefly in the form of nitrates. Dr. Voelcker's analysis of drainage waters also shows that potash and phosphoric acid, both most important mineral constituents for the plant, are almost entirely retained in the soil; while others less important, such as lime, magnesia, or sulphuric acid, pass with greater readiness out of the land.

WINTER CARE OF PEARS.—Make a point of regularly examining every week all the choice kinds of fruits that may be approaching ripeness or which are found not to be keeping well, so that everything may be used at the proper time, for the finest pears are worthless enough if allowed to become over-ripe before being used, and the same is the case with many varieties of apples. Also look over the whole stock as often as time can be spared, removing any fruit that exhibits symptoms of decay, and put them aside for immediate use. Any of the choicer kinds of

pears that do not ripen properly in the fruit room, should be removed to a warm, dry room for a few days. This will be found to greatly improve them. Keep the fruit as dry and cool as possible, and if the frost is excluded the fruit room can hardly be too cool when the object is to preserve the fruit plump and sound for a long time.

ON DRESSING HOGS.

Two years ago many hogs were partially or wholly lost, by becoming tainted after they were dressed, and before the meat cooled off. One instance came to our knowledge, where two fine hogs, each weighing 400 pounds, were injured by taint. They were dressed in quite a cool day, thoroughly cleaned and washed off with cold water. They were hung up under a shed, where a cool breeze blew over them, and yet the next morning there was a perceptible taint in the carcasses.

To prevent this the body should be split down the whole length by dividing the back bone. This will admit the air, allow the animal heat to escape, and keep the meat sweet.

Quite cold weather will not always prevent a taint. It did not in the case alluded to above. It is supposed by some that it is even safer to dress when the thermometer stands at about 40°. The reason given is, that when the weather is quite cold, the skin contracts and prevents the animal heat from escaping. Whether this is so or not, we do not know.

This, however, is quite certain,—that if the carcass is split down, there will be little or no danger of the meat becoming tainted; if it is not, there is danger; and it is so trifling a work to do it, that it is very poor economy to omit it.

In sending hogs to market, it would undoubtedly be more convenient to handle them whole, than if cut apart, and it may be safe enough to keep them whole in such hogs as are usually sent long distances, those weighing only from 200 to 300 pounds.

In the winter of 1868, we listened with much interest to a lecture by Prof. GAMGEE, of London, upon "*The Principles Involved in the Preservation of Meats*," before the State Board of Agriculture, at Amherst. In the course of his remarks he said:—

"Even in winter a lot of hogs may be killed in the evening, and whilst still warm packed in carts ready for delivery early next morning. The carcasses buried beneath others heat. The cold hogs remain intact, but the hams of the lower ones taint in pickle. Masses of frozen hams termed 'green,'

in the trade,—that is, which have been a few days in salt,—are sent from the West to New York, are purchased by provision-dealers; they are tested, and apparently sound; but when spring-time comes and a thaw supervenes, large quantities of these hams turn. The salt has not penetrated. A putrefying centre has been surrounded by ice; all has remained stationary so long as the temperature has been low; but the instant heat supervenes, the process advances, and the entire hams turn sour."

This shows the very great importance of so managing as to allow all the heat to escape as soon as possible after the animal is dressed.

ORIGIN OF WOOLEN FACTORIES.

Though the clothing of our boyhood was all home-made, we have been so long familiar with the products of woolen factories in the form of cloths for ladies' and gentlemen's wear, of beautiful shawls, carpets, &c., which are now manufactured not only in New England but in nearly every State in the Union; and we have been so long accustomed to hear complaints from certain quarters about governmental favors to "rich corporations of lordly manufacturers," that we had almost forgotten the fact of the comparatively recent date of the introduction of the woolen factory into this country.

In a late number of the "Bulletin of the National Association of Wool Manufacturers," we find some extracts from a paper on the Introduction of the Woolen Manufacture into the United States, by Royal C. Taft, of the Rhode Island Society for the Promotion of Domestic Industry, which has not only refreshed our memory but added to our stock of knowledge on the subject.

There are many interesting particulars given, but we have space only for the concise summary of the writer of the article referred to, which is as follows:—

We have found in our investigation, that Mr. John Manning had land gratted him by the town of Ipswich upon which to build a woolen factory, in 1792, which grant was subsequently confirmed to him in 1795, when the factory had been erected. The work here done was all performed by hand, being no advance upon the method previously pursued.

That John and Arthur Scholfield came from England, in March, 1793, with a knowledge of the process of manufacturing woolen cloths, as pursued there; that they did during that year erect and put into operation a carding-machine at Byfield, Mass., which was the first one erected in this country; that in 1798, they built a factory at Montville, Conn., and furnished that with the improved machinery; also, that in 1800, Arthur Scholfield left his brother John, and removed to Pittsfield, where he erected the first carding-machine introduced to that section of the country, and followed the business of manufacturing woolen goods with such success that in 1804 his broadcloths, consigned to the New York market, were sold in successful competition with the imported article, while, in 1808, he had made such substantial progress as to be able to make and furnish the President of the United States, James Madison, with fine American black broadcloth, for his inaugural suit, this being the first (and perhaps the last) time that a President of the United States has been inaugurated in

cloth of home manufacture; that he also pursued the business of building machinery; and that John Scholfield started his third and last enterprise in 1806, at Pawcatuck Bridge. Several factories were built soon after 1800; that of James Sanderson, at New Ipswich; of John Everett, at Mason Village, both in New Hampshire; and in Amherst, Hadley, and Worcester, Massachusetts.

The following from the Pittsfield, Mass., *Sun*, of Nov. 2, 1801, is supposed to be the first advertisement of a wool carding machine ever published in this country.

ARTHUR SCHOLFIELD respectfully informs the inhabitants of Pittsfield, and the neighboring towns that he has a carding-machine, half a mile west of the meeting-house, where they may have their wool carded into rolls for twelve and a half cents per pound; mixed, for fifteen and a half cents per pound. If they find the grease, and pick and grease it, it will be ten cents per pound, and twelve and a half cents mixed. They are requested to send their wool in sheets, as they will serve to bind up the rolls when done. Also, a small assortment of woollens for sale.

In 1805 the prices for carding were reduced to eight and twelve and a half cents a pound, and in 1806 Mr. Scholfield offered double carding machines for sale for \$400, and picking machines for \$30, which were rapidly set in operation in various parts of New England.

EXTRACTS AND REPLIES.

WHY DID CLOVER GROW WHERE BRUSH WAS BURNED?

Why does wood ashes cause clover to spring up where none has grown before? A few years ago I burned some brush that I had cut on the margin of the field. This brush I burned on a spot where nothing but spear grass had grown for a great many years. The next year there sprang up a splendid plot of clover where I burned the brush. Where did the seed come from? It it was in the ground, why did it not germinate before? C. H. W.

South Braintree, Mass., Oct., 1871.

REMARKS.—Are you prepared to defend the assertion made in your first question? Can you prove that clover had never grown on those spots where wood ashes caused it to spring up? If you can, you are able to do more than all the scientific men in the world have been able to do, and those who hold to the spontaneous production of plants will, we presume, be willing to pay you well for your trouble in settling in their favor a long disputed question.

The common opinion, we suppose to be, that clover, and other plants and trees that spring up under circumstances similar to the growth of your clover, come from seed in the ground, which is preserved there by some process of nature not well understood. From experiments that have been made, most kinds of seeds kept in the ordinary way lose vitality in from three to twelve years—a few kinds being found to grow after somewhat longer periods.

But most scientific men believe that seeds buried in the ground preserve their vitality for hundreds and even thousands of years.

Mr. Marsh, in his learned work entitled "Man and Nature," says the vitality of seeds "seems almost imperishable while they remain in the situation in which nature deposits them." He gives many instances in which one crop of plants had disappeared on a change of conditions, and another, of different nature, had promptly assumed its place, originating evidently from seeds preexisting for ages in the soil.

In a book entitled "Sketches of Creation," by Prof. Winchell, of the University of Michigan, recently published, there is a chapter on the vitality of buried vegetable germs, which fully corroborates the views expressed by Mr. Marsh. The writer alludes to the facts that on removing a pine forest, hard wood often succeeds, and *vice versa*; that earth thrown out of wells sends up a ready crop of weeds, and, not unfrequently, of species previously unknown; that on breaking up a sod of grass land, after any number of years, a crop of annual weeds will immediately resume possession; that a dressing of raw manure develops sorrel; and to a great many similar facts. He also cites the fact, as an authenticated one, that some well diggers in a town on the Penobscot river, in Maine, about forty miles from the sea, came, at the depth of about twenty feet, upon a stratum of sand. No such sand was to be found in the neighborhood, and none like it was known nearer than the sea, forty miles away. It was saved and piled up by itself and on the completion of the well it was spread about the spot on which it had been placed. As some peculiar plants soon showed themselves, they were protected out of curiosity, and on growing up they were ascertained to be beach-plum trees, and actually bore the beach-plum, which had never been seen except immediately upon the seashore. Now, geologists and other scientific men, suppose that the seeds from which these shrubs grew were deposited in this sand when that part of the State was the shore of the slowly receding sea; a period anterior perhaps to the creation of man.

Well known instances of the preservation of wood in water and swamps are cited as confirmation of this theory of the long continued vitality of seeds. The piles that sustain the London Bridge are still comparatively sound, after having been driven five hundred years. Venice stands on piles that were driven in the seventh and eighth centuries—more than a thousand years ago. And in New Jersey are swamps filled with timber so valuable that it is "mined" for lumber. Prof. Cook, in his Geology of New Jersey, says, "the number of annual rings in the trunk of one of these buried trees, six feet in diameter, was one thousand and eighty; while beneath it was another trunk counting five hundred rings, which had evidently grown and fallen down before the huge log above it had commenced its growth. This carries us back much further into the past than human records reach, but it is by no means a solitary case. Buried trunks of trees are often

found from twenty to sixty feet deep in the earth, in what the geologists call the glacial deposits. At Salem, Ohio, fifteen miles north of Dayton, a mass of drift wood is found from thirty-seven to forty-three feet beneath the surface of the ground, embedded in mud.

And up in Siberia the flesh of the extinct mammoth has been preserved in ice so completely that, on being exposed, dogs and bears greedily devoured it.

Prof. Winchell asks, if a material so perishable as muscular fibre could be preserved since an epoch which antedates authentic history, is it not more probable that the oily tissues of vegetable seeds could resist the tendency to decay under similar circumstances?

Now, in reply to your question, why the clover seed, if in the ground, did not germinate before you burned the brush, it may be said that possibly the hardy spear grass, having got possession of the soil held it with a conqueror's power, and thus made it impossible for the clover to raise its head. The destruction of this grass and of the tough sod it had formed by its innumerable roots, not only gave the poor over-powered clover a chance to germinate, but the ashes of its old oppressor, as well as that of the brush you burned, furnished the needed stimulus to rouse to life and action the dormant powers of the sleeping, but not dead, germ of the clover plant.

AN ACRE OF CORN ON A VERMONT HILL FARM.

The late decline in prices, the drought, grasshoppers, Western competition, &c., are discouraging many farmers in this section. Some have sold, others are trying to sell their farms, to go into other kinds of business. But as I have lived through several "hard times" in the past, I am disposed to look on the bright side, and to hope we may survive the present dark day, and perhaps be all the stronger for the lessons of economy it may force upon us.

Having just filled one of my corn bins, which by measurement holds one hundred bushels of ears, from an acre of land which was broken up last spring, I have referred to my account with this field, and think it shows that properly managed farming is still not entirely unprofitable. The following is a statement of the expense of this crop:—

Ploughing, one acre,	\$4.00
Harrowing,89
Furrowing and putting manure in hill	3.75
Covering manure and planting	2.75
Hoeing twice	7.50
Harvesting and husking	10.40

\$29.20

Corn here is now worth about one dollar a bushel, and at present prices, the fodder is worth \$20, — making, say, \$70, as the value of the crop. No manure was spread on the land, and the value of that put in the hill, which would be differently estimated by different individuals, should be added to the expense of the crop, after proper allowance for its benefit to other crops. This is only a common yield, such as common farmers may expect; still many claim they can buy corn cheaper than they can raise it. Perhaps *they* can, but I do not know of any way by which I could have earned the value of this crop of corn easier than by raising it.

Hard times with mechanics, manufacturers, and

traders have in the past often followed hard times for the farmer,—possibly as a natural result. At any rate, I am not sure that all the young farmers, or old ones either, who are now fleeing to cities and villages to escape these hard times will find themselves entirely safe in their new avocations, or that all will be able to live there as much more pleasantly and make money as much more rapidly as they expect to do. JARVIS PRATT.

Reading, Vt., Oct., 20, 1871.

MY CROP OF CORN

Is now in the stook in the field, and is, I think, a little the best I ever raised. According to my rule for estimating the yield of corn, which you know is rather severe on brag crops, I estimate that I have raised from eighty to ninety bushels per acre, with twenty five loads of manure to the acre. When husked I will send you a specimen which I think cannot be excelled in New England.

JOAB HARGOOD.

Shrewsbury, Mass., Oct. 21, 1871.

SIDE-HILL OR SWIVEL PLOUGHS.

I was interested in the remarks and inquiries of your correspondent "Jones" in the FARMER of Sept. 2, on the subject of "Ploughs." I have used one of Holbrook's No. 4 reversible ploughs three years and I find the same trouble with it that he experiences with the Lebanon plough. The team in drawing, twists it over upon the mouldboard so that when the ground is dry it is almost impossible to keep the plough where it ought to be.

GIDEON SPENCER.

Vergennes, Vt., Oct. 16, 1871.

REMARKS.—The manufacturers of landside ploughs have found it necessary to furnish some kind of clevis machinery by which the line of draught may be changed to suit the different circumstances in which the plough is used. If such a clevis were applied to the swivel plough it must be changed as often as the mouldboard is reversed, which would be exceedingly troublesome. Hence the same object is usually secured by a change in the length of eveners for horses, or of the yoke for oxen. The largest sizes of ploughs require a longer evenor or ox yoke than the smaller ones. With Holbrook's No. 4, the distance between the bows should not be less than from 24 to 28 inches, for oxen; and the evenor, for horses, at least four feet. The hitch of the team should be of sufficient length to bear a little on the wheel. The team ought to walk square; if "Old Broad" on the off side keeps his end of the yoke ahead, the plough will take a little less land.

For the New England Farmer.

ECONOMY NECESSARY TO THRIFT.

The address of General B. F. Butler before the Norfolk Farmer's Club, of which I saw an extract in the FARMER, contains much that is of the greatest importance to the farmers of all our New England States, who, dissatisfied with their present lot, are contemplating a move to the West or some other locality that they hope will enable them to better their condition in life.

He shows quite conclusively that much of

the unthrift among us is owing to the absence of that rigid economy that was so conspicuous in our ancestors, or rather to our reckless extravagance in all directions. Very few will be disposed to deny his statements, or to controvert his conclusions, however much inclined to apologize for the present condition of things.

The advice to farmers to teach their children frugality, sobriety, thrift and economy, is certainly very timely, to say the least. I have, through your columns, given expression to the same sentiments, and cannot but be gratified at finding them enforced on such an occasion by such an advocate.

Letters that occasionally come to me from the West give me an insight of the modes of life of the writers,—their farming, misfortunes and fears, and I am more inclined, as time passes on and new light dawns, to commiserate their lot than to bewail our own, at the East.

I know two young men (brothers) in Kansas who were tenderly reared here and whose every want was anticipated on the old farm. The oldest of the two was in Kansas two years before being joined by his brother, three years since. They have lived in a little shanty of one room, where they cook, sleep and receive their company. These young men are within five miles of the capital of the State and have good society within reach. Others I know who are living in the same manner in the same State, but are isolated from near neighbors and society. They do their own cooking, washing, mending, &c.

Now, how many young men with us can be found willing to subject themselves to the same mode of life *here*, in order to make a business start? I fancy they are few. They appear to be enchanted with such modes of life when seen at a distance, but revolt from them if proposed for their adoption here. Why is this so? Chiefly, I suppose, because they fear it would place them outside of the social circle they desire to move in, and they are probably correct in their conclusions. In all new settlements it is *expected* that every one will adapt himself to the surroundings, and confine his expenses within the limit of his means. He is not regarded as being *mean* or *penurious* if he does live in a log house of but one room, cook his own food, wash and mend his own clothes.

With us, public opinion, or fashion, or both combined, have become so tyrannical that but few have the manliness to face and defy them, even when the conviction is strong upon them that they ought to do so in order to avoid moral obliquity or financial disaster.

It is unquestionably true that we are hedged around with such adense atmosphere of extravagance that we dare not assert ourselves, lest we incur the stigma of being regarded as mean. Rather than incur this stigma there is no doubt that thousands are driven from their New England homes to other parts of our

country, and so far as real comfort is concerned have literally "jumped out of the frying-pan into the fire."

Is it not well for our young men to consider these facts, and see if they cannot call up sufficient self-reliance, self-respect and courage to enable them to adapt themselves to the circumstances of their lot, even if it involves living as our new settlers live at the West, and see if it will not eventuate in ultimate prosperity and happiness? We can with more confidence rely upon our crops maturing than farmers can at the West or South, and are sure of much better prices. In the localities referred to, they are in almost constant fear of tornadoes, fires, too much or too little rain, grasshoppers and other destructive insects, if I am to form an opinion from the impression I receive from friends there.

I hope we shall see, when another census is taken, that the *old* thrift of the farmers of New England is again returning to bless coming generations.

K. O.

Sept. 25, 1871.

For the New England Farmer.

VALLEY OF THE MERRIMAC.

Autumnal Scenery—Harvest—Apples—Pears—Grapes—Cabbage Worm—Cranberries—Advance in price of Grain.

Summer with its heat, dust and showers is past and gone, and lovely, golden-hued Autumn, with its beautiful foliage and purple fruit, its soft bracing air and yellow sunlight, its frosty mornings and warm noons, is with us once more. To me it is the most beautiful season of the year. I cannot see the "melancholy days;" all is bright and glorious. As I stand at my window and gaze upon the panorama of beauty spread out before me, a wild gladness comes over me that no words can express. Up the hill-sides are ranged tier upon tier of scarlet and gold, of crimson and brown, of green and yellow, so softly blended, that no brush of artist can transfer the tints to canvass. I rode by the shore of Lake Kenosha yesterday afternoon, frequently stopping the carriage to admire the most lovely shading of rich colors I ever saw. Will science ever be able to give us instantaneous pictures with all these colors in the rich shading that I saw them last night?

People are busy harvesting. Potatoes are a little inclined to rot and do not turn out remarkably well. Apples are only in our memories as a thing of last year's growth. Pears have proved very poor with us, ripening very early and in most cases rotting at the core before mellowing, and prove poor eating. Our Buffums are the freest from rot, but are mealy, rather than juicy as usual; Swan's Orange are crabbed and poor; Lawrence is ripening now and nice; of Flemish Beauty we have not a pear, and why not remains a mystery; Vicar not ripe, but large and handsome. Grapes

are very fine—uncommonly so; while there is great complaint among our neighbors about the ripening of all varieties. Our Concord's were beginning to ripen before Blood's Purple were gone, and ripened up beautifully even and handsome, while others say their Concord's are very late and ripen unevenly, and are also sour. We had a few of what we suppose to be Diana. They are very nice; small compact clusters of amber or rather green-white berries, small, rich, vinous, sweet, soft and luscious; thin skin, melting pulp and fine flavor—what more can we ask for a grape? We also had a few Rebecca—at least we call them by that name; berries medium size, pale red or amber, clear, vinous, melting, sprightly and a little acid;—bunches loose, large, shouldered,—a very handsome grape, so clear that you can see the seeds after the bloom is rubbed off; rather acid for eating but splendid to preserve.

The cabbage worm was very short-lived this season, doing but little damage. The crop was about two thirds as much as last year. Cranberries are in market at \$1.50 and \$5.00 per bushel and very nice. The cry was that the frost had cut off the crops and they would be scarce, but we have all heard the old story of the boy that cried "wolf, wolf," and we experience it often. Grain has risen twenty to twenty-five cents per bag since Chicago was reduced to ashes, but we now learn the elevators were not all burned. L. B. SAWYER.

West Amesbury, Mass., Oct. 13, 1871.

For the New England Farmer.

DOES FARMING PAY?

Profit on Milch Cows—Cost of Keeping—How to Estimate Profits—Subsoil Drainage—Radical Views.

I noticed in the *FARMER* of Sept. 9th, a short review of a series of Lectures on Agricultural Topics by Mr. Hyde. Now if the few extracts you have made are a fair sample of the whole, I think the tendency is to mislead rather than to impart useful instruction.

Under the head "Does Farming Pay?" he refers to the increased fertility of the farms in the Housatonic Valley during the last few years. To prove his position he says that the annual income per cow has advanced from \$50 or \$60 per cow to \$80 and \$100. If this has been effected without a corresponding increase of expenditure, it would really be interesting to know how it has been done. If the farmers in that section have found out how to make two blades of grass grow where but one grew before, it is certainly a great gain. He says a large farmer in Egremont has obtained the last year an income of \$100 per cow from 21 cows, and that he expects by an addition of nine cows to his flock, to get an income of \$4000, or an average of \$133 per cow the coming year. As this is to be done by cutting and steaming the food, it seems that as this increase will be due more to extra labor and at-

tention than anything else, it will not be fair to set it down as an evidence of the increased fertility of soil in that locality.

Now let us examine this statement for one moment. I am ignorant of the way the milk was disposed of in the case referred to, but will suppose it to have been sold at the door, as the most profitable way of turning it into money. I base my calculation on the price of milk and feed hereabouts, within four or five miles of the cities of Salem and Lynn, where hay is worth thirty-five or forty dollars per ton, and milk four to five cents a quart at the door. Well, then, in order to get an income of one hundred dollars per cow, with milk at five cents, he must get an average of five and a half quarts per day from each cow through the year. This amount of milk might be obtained with a new set of cows for the first year, but I hardly think it could be kept up the second year. Now I suppose Mr. Hyde looked upon these cows as machines to work up the raw material raised on the farm and condense it into a more convenient form to be turned into money. Mr. Hyde, it seems, has made no allowance for keeping the cows. If we take English hay as our basis and calculate that twenty-five pounds per day, or its value in other kinds of feed per cow, we shall find that it will cost 41½ cents a day for the feed of a cow, or as I will call it 42 cents to get rid of the fraction. If the cows are stabled from Nov. 1st to May 20th, as is the custom here usually, it will be 201 days, at a cost of \$5.52 per day, or \$1772.82 for the 201 days. If we add \$1 a day for attention, we have an aggregate of \$1973.82 as the cost of keeping the twenty-one cows through the winter, to say nothing about the summer keep. Deducting this from the income, leaves \$126.18 as the nett profit on the cows, over the cost of wintering.

Now I don't for one moment question the truth of Mr. Hyde's statement, but I do say that in my opinion it proves nothing at all in regard to profits of farming. I think that the only true way to get at the real facts in the case is to do as all other men do if they are shrewd, where capital is invested, and that is to charge interest on the capital stock, allow for attention and depreciation, and give credit for betterments, and then strike the balance, and see whether there has been a gain or loss. Tried by this standard, I believe that farming, as a general thing, will prove not very remunerating.

I said above, that there should be an allowance for attention: by this I mean that the farmer and his wife should be allowed a fair compensation for their services. I see no reason why they should work from "early morn to dewy eve" for only a bare living, and not lay by anything to make them comfortable when old age takes them in a measure from the active duties connected with the management of the farm.

Mr. Hyde's remarks on the subsoil are not perhaps very guarded. He says "If of the same mineral constitution as the surface soil, then by a little care it can be made just as available for the production of crops." The question might be asked, if it is of the same mineral constituents as the surface soil what is the use of turning it up as it will not change the character of the soil?

The remarks upon drainage, it seems to me are expressed in too broad terms altogether. While I believe draining might be made useful to a much greater extent than it is, yet to assert the principle that it lays at the foundation of successful farming in New England, is overstepping the mark altogether. Farmers have been taught to believe that manure lay at the foundation; in fact, is the top and bottom of all successful farming. Mr. Hyde says, No, it is drainage. An opinion which a large majority of practical farmers will be slow to adopt. The future of New England farming looks gloomy enough, with competition bearing down upon it from every quarter. It becomes the farmer to be cautious how he enhances the cost of his farm, or extends his operations: as it is concentration, and not expansion, that is needed.

I make these remarks because I think that such radical views often promulgated by agricultural writers and speakers, are liable to mislead the practical farmer who needs correct information.

J. L. HUBBARD.

Peabody, Mass., Sept., 27., 1871.

FALL MANURING.

A year ago, I had ten acres of wheat seeded down with clover, but on which the clover failed. I wished very much to get it into clover, and could hardly make up my mind to plough it up. I thought the clover might still come in. And so, immediately after harvest, I top-dressed it with barnyard manure, thinking that, if the clover came in, the manure would help it, and if it did not, that it would at any rate help any crop I might put on the land in the spring.

The clover did *not* come in. And so, with great reluctance, I this spring ploughed it up, and drilled in three bushels of peas and one bushel of oats per acre. The manure put on the previous September was of good quality, pretty well rotted, and we put on a liberal dressing, say fifteen tons per acre. It was spread as fast as drawn. The weather was hot and dry, and some of my neighbors thought the manure would all be burnt up, or at any rate that nearly all the virtue in it would evaporate and be lost. I never had any fears on this score. We harrowed it once or twice last fall, and re-spread any portion that the harrows pulled together; and there the manure lay, exposed on this bare ground, through the fall and winter, until it was ploughed under in the spring.

The result fully came up to my expectations. We had on the ten acres eighty loads of produce. The crop was pretty hard to thrash, as the straw and haulm was very long, and we raised the concave of the machine pretty high, and probably did not thrash very clean. Still we had 560 bushels from the ten acres, weighing 49 lbs. per bushel. Estimating the crop as oats, at 32 lbs. per bushel, the yield was equal to 88½ bushels per acre. I was fortunate enough to get in the crop without a drop of rain falling on it, and the straw will be fully as good as over-ripe or badly cured hay.

Of course, I cannot say that there would not have been just as good a crop if the manure had not been applied until spring, but I am inclined to doubt it. And, at any rate—and this was one of my objects—it gave an opportunity for the weed seeds in the manure to germinate last fall, and the spring ploughing destroyed the plants. The field is the one I “fall-fallowed” three years ago, and, for a run-down, weedy farm, the land is now encouragingly clean, and I expect a good crop of wheat on it next year, and a big crop of clover hay, with the chance of a good crop of clover seed the year following.—*J. Harris, in Am. Agriculturist.*

PORK RAISING AT THE WEST.

The great obstacle to success in raising pork cheaply, is in feeding hogs that are more or less diseased animals. The practice of feeding hogs of different ages raw corn, shut up in small lots or pens, at all seasons of the year, is sure to produce disease and debility, from which a stunted growth follows; and a condition of system that induces cholera, and other epidemic diseases. The hog, like most other animals, is naturally, and should be made, a grazing animal. Dry corn should not be fed to hogs under any circumstances, but should be soaked in water, if fed raw, and plenty of salt and wood ashes supplied at all times.

Hog Cholera.

The prevailing disease called Hog Cholera, confined to the corn district of the Western States, I am satisfied is induced by feeding corn without other vegetable food. The natural tendency of that kind of feeding is to produce worms and other animalculæ that infest the intestines of the hog, and from thence make their way through into the flesh, and infest the whole system. The peculiarity of the disease is that, if a hog becomes once infected it will never entirely recover. Sows once infected will never raise a healthy litter of pigs, even if kept for years. The pigs will usually show symptoms of the disease before they are a week old, and some, or all of them, die within one or two months. A large share of the hogs of the Western country are more or less infected in this way, and quite often where there appears to be no visible signs of disease. This kind of meat is not tempting to the pal-

ate. All white hogs seem to be sooner affected and die sooner than black or spotted ones. I find the Berkshire will resist it much longer than any other hog.—*Iowa Homestead.*

COW WITHHOLDING HER MILK.

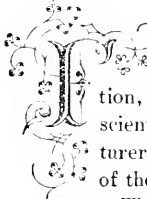
A cow will sometimes withhold her milk when her calf is taken away, but usually only for a short time. The remedy in such cases is gentle treatment, and a persistent effort to draw the milk and bathing the udder with cold water. The milking should be attempted at short intervals—at least three or four times a day. If the cow is treated kindly, and a continued effort be made to draw the milk from time to time, she usually yields the point, and in a few days will forget her calf and give down her milk regularly. If harsh treatment is resorted to, and the milking be neglected, inflammation of the udder and garget may set in, causing serious trouble and perhaps loss of milk entirely, if not other and permanent injury to the cow. It is not advisable to puncture the teat under such circumstances—at least, not until continued and thorough efforts have been made to draw the milk by hand in the usual way.

In case of obstructions in the milk duct, on account of coagulated milk or from some imperfection of the parts, a properly formed milk tube may sometimes be used with advantage. These tubes are constructed of silver, with a smooth, round point, pierced with holes, through which the milk may pass into the tube, and so arranged as not to injure the milk duct when introducing or withdrawing it from the teat. When pointed wires, straws, or goose quills are used for the purpose, they are liable to wound the parts and get up an inflammation in the teat, which may extend to the udder and spoil the cow for milk, at least for the season, if not permanently. This would be very likely to be the case if the weather be warm and the cow secrete a large quantity of milk.

We have seen wires, straws and quills used in numerous instances, and in nearly all bad results followed. In some cases the inflammation was so rapid as to make the cow in a few days almost unmanageable, and the final result was a broken udder and consequent loss of the cow.—*X. A. Willard, in Moore's Rural New Yorker.*

INSECTS.—Some idea of the injury caused by insects to agricultural products may be formed from the statement that, from seventy-four tons of Spanish wheat stored in a granary, ten hundred weight of beetles were screened out in one instance, and in another thirty five hundred weight were removed from 145 tons of American corn. The offender in both cases was a weevil, known as *Calandra orisea*.

IMPORTANCE OF FARMERS' CLUBS.



ARMERS of the present generation have had the example before them of association, among merchants, literary and scientific men, mechanics, manufacturers, and of nearly all the classes of the industrial population.

These classes have combined for several reasons. First, because in union there is strength. They long ago learned that their scattered power accomplished little or nothing, but that when united in purpose, they were respected, and their objects gained. Second, to protect their interests. Striking examples of this may be found in certain classes of manufacturers in New England, and of importers and merchants in New York, whose zealous care watches with Argus eyes every change in State or National law, which would tend to affect their interests. To protect themselves in such cases, they always have in readiness some of their most astute and influential men, paid liberally from a common fund, who are too often able to shape the form of law to suit special cases, rather than to favor the general interest.

Thirdly, they unite in order to learn of each other. In the course of an hour, the grand results of a lifetime of studies, experiment and investigation, may be made known to a company of one hundred or a thousand persons, all of whom may be earnest inquirers in the same direction. The subject may be of vast importance to our national industry, or perhaps, as in the case of the cotton-gin, by our own Whitney, the gathering of earnest thinkers, may bring out new points to improve or perfect the work under consideration.

All these the farmer has always seen going on, but the examples, so plain that none could mistake them, or doubt of their utility when honestly conducted, have not led to their general adoption.

There are State and County Associations, and they are doing their work,—imperfectly, to be sure,—arousing attention and having many excellent influences. There are also Farmer's Clubs, but compared with the extent of territory occupied by farmers, and the vast importance of their profession, they are altogether too few and far between.

Let us, as farmers, quit some of the old hackneyed paths, and avail ourselves of the

examples offered by the shrewd, money-making classes about us, and thus gain strength by union, protect our interests by a better knowledge of them, and gain ability to state and defend them, and learn of each other how to secure the best products in our art at the least cost.

Let us illustrate by a single case. The statement has been so long and so often made that "manure is the basis of all good farming" that it has become a maxim, a settled principle with farmers, so that their energies are mainly turned to securing it. But though so often repeated by books, newspapers and speakers everywhere, is it an indisputable fact? Are there no preliminary preparations required in the soil, which, if neglected, would leave the manure cold and inactive? Are not depth, pulverization and moisture all to be attended to before manure will have much influence upon the growth of plants?

Much larger quantities of manure are collected upon many farms now than there used to be. This is done by employing every available means. In some instances by an increase of fodder, and in others by the use of grain purchased from abroad, and by collecting all possible perishable articles to increase the general mass.

The increase of the hay crop, however, has not been equal to the increased cost and amount of fertilizers. These fertilizers have been applied, in too many cases, where the land was not fitted to receive them, and consequently, they had no power to act. If this be so, "manure cannot be the basis of all good farming." On many of our best lands, some action is indispensable, previously to the application of manure,—and that action is *to remove all surplus water in the soil.*

The reader can be referred to hundreds of acres which have been cultivated for fifty years with little or no profit, because the operation and importance of draining the soil were not understood. In some instances these lands were ploughed, well manured and cleanly cultivated, and yet yielded no profit. In others, no ploughing had taken place, but a crop of poor grass annually cut to the amount of about one ton to the acre. When drained and moderately manured, these same lands annually produce a crop of English grass of from two to three tons per acre.

Here, then, is a work for the farmers' clubs, so to illustrate the principles involved in it, and so to enforce its importance as to lead every one to investigate for himself, and to examine lands drained and undrained, lying side by side, and learn the comparative profits which they yield.

If this simple subject could be more understood, and lead to a corresponding practice by the members of a farmer's club, it would afford more profit to each member, perhaps, than any other arising from the winter's work. The subject, considered in all its bearings, might well occupy the attention of the club for several evenings and we have no doubt with increasing interest, as its importance should be developed.

There are numerous other topics which might be discussed, and a better understanding of which are essential to a profitable prosecution of the business of farming.

The club should be a thoroughly systematic organization. It should be an association for *discussion*, not for mere conversation. Members should prepare themselves for its duties. They must not be excused because they are not familiar with the subject proposed; but required to investigate it by reading, experiment and inquiry. It is these which will increase their knowledge, and qualify them for good farmers.

In many places farmers' clubs are among the best educational institutions in the towns where they are established. Their influences reach far beyond the mere cultivation of the soil, into the recesses of the family, schools, politics, religion and all the social relations of life. They tend to elevate and refine, and create a bond of sympathy and regard in the community; and this is true Christian progress. Below we give a form for the

Organization of a Farmers' Club.

ARTICLE 1. This Association shall be styled the ———

ART. 2. Its object shall be to promote the interests of agriculture, and the welfare of the farmer, to disseminate such knowledge, practical and scientific, as shall conduce to that end.

ART. 3. Its officers shall be a President, Vice-President, Secretary, and Treasurer, who shall be chosen annually by ballot.

ART. 4. The president shall preside at all meetings of the Club, with power to preserve order and appoint speakers and committees.

ART. 5. In the absence of the president all his power may be exercised by the vice-president.

ART. 6. The secretary shall keep a record of the proceedings of each meeting, which shall be read by him at the opening of the next meeting.

He shall preserve all essays read by members, reports of Committees, and conduct whatever correspondence is directed by the Club.

ART. 7. The treasurer shall keep a correct account of all moneys received, shall disburse the same as directed by the Club, and at each annual meeting present a clear and correct statement of the same.

ART. 8. There shall be at each meeting a discussion upon a topic previously announced; a member being appointed to read an essay upon it, and two other members to commence the discussion as leaders.

ART. 9. New members may be elected at any regular meeting of the Club by signing the constitution and paying the sum of ———

ART. 10. The annual meeting of the Club shall be held on ——— of each year, for the election of officers; and all officers so elected shall hold their office one year, or until a new election is made.

This constitution has been in force in a club for twenty years, and with two or three simple rules, has been found all that was needed.

The success and usefulness of the club will greatly depend upon the observance of strict parliamentary rules. There will be a constant tendency to *run into conversation*, which if allowed, would soon destroy the distinctive features of the club, and reduce it to a mere fireside conversation. All that we achieve is by labor. And it will only be by earnest, interested application, that the farmers' club will become one of the educational institutions of the State.

NEW PUBLICATIONS.

WAR DEPARTMENT CIRCULAR. The Practical use of the Meteorological Reports and Weather Maps. Office of the Chief Signal Officer, Division of Telegrams and Reports for the benefit of Commerce. Washington. 1871.

Middle-aged men can remember when the first telegraph wires in this country were put up between Washington and Baltimore, and when for the first time men forty miles apart could sit down and "talk" with each other. Such communication now exists between the people of all the large towns in this country, and even between us and cities of the old world. Among the advantages or such instantaneous communication, is the possibility of predicting for a brief time the probabilities of the weather and the progress of changes in the atmosphere.

This pamphlet details the means by which the "Chief Signal Officer" at Washington has been able to foretell coming storms, the approach of fair weather, &c., with an accuracy that has surprised those who have read his report of "probabilities" as published in the daily papers of late, and its object is "to put it in the power of the largest number to make use of, and to profit by, the labors of this Office; to enable them to test, and to avail themselves of some of the laws and generalizations by which meteorologists are guided; and to afford

the means by which at once to supplement, judge of, and aid the work of the Department." Though commerce is particularly mentioned in the title-page as the interest to be benefited by these meteorological observations and reports, they must be at least of equal importance to agriculture, as the interest of those who do business on the great waters is not more affected by the weather than is that of those who do business on the land.

CATALOGUE OF THE OFFICERS AND STUDENTS OF the State Agricultural College of Michigan. 1871.

Too many of the States have treated the congressional grant of land for the establishment of institutions for "teaching such branches of learning as are related to Agriculture and the Mechanic Arts," much as the goose that laid the golden eggs was treated in the fable. Michigan, however, had the wisdom to spare the life of the bird, though the eggs she laid were not at first as numerous as was desired. Instead of putting their portion of lands into the hands of speculators for what it would bring at a forced sale, the managers held on to them, and now the prospect is that the institution will soon be self supporting. The names of 141 students are given, among which are eight females, together with the course of study, &c.

GUIDE TO THE STUDY OF INSECTS, and a Treatise on those injurious and beneficial to Crops; for the use of Colleges, Farm Schools, and Agriculturists. By A. S. Packard, Jr., M. D. With eleven plates and six hundred and fifty wood-cuts. Salem: Naturalist's Book Agency; London: Trubner & Co. 1869. Price \$6.00.

This work was issued in numbers. These we have had bound, and find they make a volume of 702 pages. The title is a modest one—but after all, what is any book but a "guide to the study" of the subject discussed, however "exhaustively" it may be treated? The statement as to the number of illustrations—"eleven plates and six hundred and fifty wood-cuts,"—is also a modest one, as there are 1238 figures of American insects, from a butterfly to an animalcule, executed in the best style of modern engraving. "Farmers and Gardeners" and others for whom this work is intended, who are liable to stumble at hard words, will be glad to know that the hardest of them are defined in a "Glossary" at the end of the volume. Though scientific terms are avoided as far as possible, most unscientific readers will probably have frequent occasion to consult the "Glossary," as in a concise description of an insect the use of technical terms is unavoidable.

As we do not feel competent to express an opinion of the value of this work compared with others that have been published on entomology, we will quote that of an English scientific journal, called "Nature," which says it is "certainly the best manual of entomology which the English reader can at present obtain."

BET SUGAR.—We learn by the *Western Farmer* that the Beet Sugar Factory in Sauk county, Wisconsin, is now in operation, and employs from forty to fifty hands, half of whom work during the day

and half at night. The supply of beets, from 250 acres amounting to some 2000 tons, is sufficient to keep the factory in operation from the middle of October to about the first of January. The daily product is stated at ten barrels, but with some additional machinery it may be increased to fifteen barrels without other additional expense. The sugar is white, with a slight taste not found in the best sugars, which it is thought will be remedied soon.

From the Country Gentleman.

THE SEED AND THE SOWERS.

Ever so little the seed may be,
Ever so little the hand,
But when it is sown it must grow, you see,
And develop its nature, weed, flower or tree;
The sunshine, the air and the dew are free
At its command.

If the seed be good, we rejoice in hope
Of the harvest it will yield.
We wait and watch for its springing up,
Admire its growth, and count on the crop
That will come from the little seeds we drop
In the great wide field.

But if we heedlessly scatter wide
Seeds we may happen to find,
We care not for culture or what may betide,
We sow here and there on the highway side;
Whether they've lived or whether they've died,
We never mind.

Yet every sower must one day reap
Fruit from the seed he has sown.
How carefully then it becomes us to keep
A watchful eye on the seed, and seek
To sow what is good, that we may not weep
To receive our own!

NEW CROPS IN CALIFORNIA.—The climate in California admits of a larger variety of crops than almost any other country, and the number cultivated is rapidly increasing. In addition to those now generally grown, the *California Farmer* calls attention to Flax, Hemp, the Ramie, New Zealand Flax, Cotton, Nut Trees, Oranges, Lemons, Limes, Almonds, Walnuts, Olives, Ornamental Evergreens, Forest Trees, all of which, it is believed, may be made profitable.

NOT TOO OLD TO PLANT TREES.—A correspondent of the *Iowa Homestead* tells a good story of David Cutler, of Frankville, Winneshiek Co., Iowa, who in 1863, when eighty-one years old bought a lot of apple trees of a nursery man; in 1869, when eighty-seven years of age, he bought another lot, handling the trees himself, and driving the team that drew them, and in 1871, when eighty-nine years old, exhibited at his county fair one hundred and nine varieties of apples—including specimens grown on trees of his last planting—and fifteen varieties of grapes—including many new and rare sorts.

AMOUNT OF PORK FROM A BUSHEL OF CORN.—Mr. Milton Briggs of Kellogg, Iowa, says, in the *Homestead*, that various experiments have proved

the fact that corn fed to hogs has produced all the way from two to twenty pounds gain, a bushel, according to the different modes of preparing feed, and the age, breed or condition of hogs fed. He is satisfied that over one-half of all the hogs fed in Iowa, do not produce over five pounds gross weight for each bushel of corn fed, which, counting hogs at \$3 per hundred pounds, gives fifteen cents per bushel for corn.

VERMONT DAIRYMEN.—At the annual meeting of the Vermont Dairymen's Association at Montpelier, Oct. 25, Hon. E. D. Mason was elected president; W. P. Nash, C. Horace Hubbard and C. W. Brownell, Vice presidents, and O. S. Bliss, secretary and treasurer.

AGRICULTURAL ITEMS.

—The latest device for "breaking up" a setting hen is to put a couple of lumps of ice in the nest.

—It is stated that Texas, west of the Colorado, has taken \$1,000,000 or more in gold for cattle and horses within one hundred days.

—Commissioner Delano, of New York, has decided that a farmer selling his produce from his own wagon, without any regular business stand, is not liable to pay a tax as a produce dealer.

—Experiments often repeated have shown that a plant may be raised in a flower pot from a seed and receive no nourishment but pure water, yet shall far exceed in weight all the soil in which it grew.

—Of the Michigan Agricultural College Farm, although it contains over 600 acres, but about 150 acres are under cultivation—the remainder being either heavily timbered or swamp land.

—Herkimer County, N. Y., ships annually cheese and butter, worth \$4,500,000 in the market. St. Albans, Vt., ships cheese and butter, worth in the market \$1,250,000. The village of Willington, Ohio, cheese worth \$1,500,000.

—Moss peat is said to be one of the best materials for ice houses. When it is thoroughly dried it proves to be a poor conductor of heat, and when laid up around ice houses above the ground, is preferred by many persons to sawdust, tan bark, and the like.

—The *Country Gentleman* states that Messrs. E. L. & J. N. Sturtevant, of South Framingham, propose to publish all the facts they can obtain illustrative of the history, characteristics and value of the Ayrshire breed of cattle.

—The moment any creature is found curled up and shivering, there is a loss of comfort which costs the owner mills and cents, if not dollars and eagles; and it is far better economy to house stock and give them extra feed and care at this season.

—A wonderful instance of vegetable transmutation is mentioned by a correspondent of the *Iowa Homestead*. A farmer purchased of a tree peddler fifty different varieties of apples for a large orchard.

In a few years these trees resolved themselves into only two kinds.

—A correspondent of the *Rural New Yorker* says: "Flies have been so bad on my horses that I found it almost impossible to work them. I took smart weed and soaked it in water, and in the morning applied it to the horses with a sponge, all over them, and found the horses to work along without any further trouble, the flies not annoying them in the least."

—On the farm of Mr. Cyrus G. Smith, of Newmarket, N. H., are a white oak fifty feet tall, and a hemlock ten feet less, the butts of which seem to be united one or two feet up. Further up a limb of the oak grows through the hemlock and then a hemlock through the oak, beating the Siamese twins by long odds.

—The question having arisen in a law suit whether certain animals were sheep or lambs, the decision was made, according to *Hearth and Home*, not by the age, which was fifteen months, but by testimony as to whether they had their first permanent teeth. Legally then a lamb becomes a sheep when it gets its first permanent teeth.

—Jeremiah Cousens, of Kennebunk, Me., eighty-one years of age, and a well known veteran of the war of 1812, has mowed upwards of seventeen acres of grass land this season and carried it lot by lot on poles to the barn, besides walking two and one-half miles to the house of his daughter, and attending to her gardening.

FODDER CORN.—It is better to sow the corn rather thick together at the rate of about three bushels per acre. In this way we get smaller stalks, which are more easily cured and better when fed to the cattle. I have the rows from 28 to 30 inches apart. After the corn is a few inches high, run the cultivator between the rows, slightly hilling it, and the corn will soon cover the ground, and there will be little trouble afterwards with the weeds. If it is sown so as to be cut early, a crop of turnips can be grown after the corn is taken off.—S. F. Lane, *Rockingham Co., N. H., in Country Gentleman*.

NEW VARIETIES OF WEEDS.—It is stated that there are now no less than two hundred and fourteen weeds which have been introduced into the United States from foreign countries, and principally from England. As a proof of the rapidity with which useless plants are accidentally brought over the seas, it is said that in 1837 there were only one hundred and thirty-seven foreign weeds known in this country. As far back as 1672 a curious little volume, called "New England Rarities," gave a list of twenty-two plants which the author considered had sprung up since the English had kept cattle in New England.

BUTTER DAIRIES--MILK ROOMS.

Many very considerable improvements in the methods of treating milk have been effected in a few years, and the rooms which but lately were deemed best adapted to that purpose are not now approved by the more progressive and intelligent dairymen. Formerly every facility for cooling the rooms was husbanded, and the location and construction were chiefly with reference to that end. But it has been found that the new method of cooling the milk by the use of water is more economical and every way preferable, and that a more elevated temperature of the room is desirable; and, as a consequence, other principles govern in locating and constructing them.

It is not worth while to enter upon an extended discussion of that subject in this connection, but it may be pertinent to remark that another season's experience of many individual dairymen confirms the position assumed by us and advocated at the meetings of the several dairymen's associations and elsewhere, last winter, that the cooling principle, whatever it may be, should be applied to the milk and not to the room, and that the milk having been once cooled should be kept in a warm room for the production of the most and best butter. Very satisfactory results have attended the use of the broad, shallow, bulk pans, with water underneath; but better results, so far as we have been able to make comparisons between the two systems at different establishments, seem to have attended the use of the deeper and narrower pans with water well up the sides; and this latter system possesses another advantage in that it is much more economical of space.

We return to the discussion of our main subject with the remark that we no longer, as formerly, advocate the erection of separate dairy houses for butter dairies, nor indeed for cheese, if there is plenty of room in the house. We would, then, if building a new farm house, or rearranging an old one, place one dairy room just in that part of the house where it would be most convenient to the water supply and to the kitchen, for we would do our dairy work in the kitchen, or anywhere else but in the room where our milk is kept. If just as convenient, we would put it on the shady side of the house, but not otherwise. We would not put ourselves out at all to secure ventilation, other than by lowering or raising a window on special occasions, as currents of air are not ordinarily desirable. We would keep a small box stove in the room, and light a little fire in it in damp weather, even in midsummer, and that would answer every purpose of the most elaborate and expensive system of ventilation. One very decided advantage afforded by the stove ventilation is that the air taken up by it from near the bottom of the room, is damper and cooler than the more elevated strata, and the odor-

charged gases which many dairymen believe are expelled from the milk by the cooling process, are mixed with these lower strata of air, as are the exhalations of any occupants of the room.

In regard to the amount of room required, we remark that the best equipped 40-cow dairy with which we are acquainted, occupies for setting purposes a room containing only about 120 square feet, though we confess we would prefer to have a little more elbow room. The pans used in this establishment are six feet long and one foot wide, and the same deep, set in wooden tanks about four inches wider. They are arranged in pairs, the water supplied by rubber hose from a penstock in one corner of the room, and both water and skimmed milk are drawn off through hose and tubing. The pans are lifted out and carried into the kitchen adjoining for cleansing and scalding, and no work is done in the room other than straining the milk and dipping off the cream. The churning is done in an adjacent shed in a revolving box churn, by horse power.

Very great economy of construction and operation will result from the adoption of the new method which we understandingly commend to any who are seeking the best results.—*O. S. B., Georgia Vt., in Co. Gent.*

LAWNS AND GRASS PLATS.—Lawns, grass plats and borders should have a top dressing of fine stable manure late in the fall—any time before snow covers them. They will then make an early growth in spring, and the grass will keep up its verdure until late in the fall, unless a protracted drouth, like that of the present season, arrests its growth. October is a suitable month for preparing the ground for new lawns or green plats. The soil for this purpose should be trenched or subsoiled, but deepening is of very little service without drainage. Many fine pieces of grass have been made without trenching the soil, but the deeper the tillage has been, the longer the grass will retain its verdure in dry seasons. For either tining or seeding, a fine, level surface should be made. If green sods are used, they should be taken from an old, upland meadow or pasture. Sods from low, moist land should never be used, as the grass is coarse in such places. The sods should be marked out with a line, and cut in pieces of equal width, so that they can be laid evenly. When the sods are of equal sizes, they should be beaten down level, and fine soil sifted in to fill the crevices.—*Small Fruit Recorder.*

—Alonzo Porter, of Hardwick, Vt., who last fall took the agency for the sale of a patent pitchfork, and signed what he supposed was an order for a specimen, was lately surprised by a notice from a neighboring bank that his note for \$204 was due at that institution.

Ladies' Department.

For the New England Farmer.

DUTCH FLOWERING BULBS.

CULTURE IN WINDOW GARDENS.

"Say, what impels, amidst surrounding snow,
Congealed, the crocus flamy bud to glow?
Say, what retards, amidst the summer's breeze
Th' autumnal bulb, till pale decaying days?
The God of Seasons, whose pervading power
Controls the sun, or sheds the fleecy shower:
He bids each flower his quickening word obey,
Or to each lingering bloom enjoins decay."

The principal bulbs employed for indoor culture are Hyacinths, Early Tulips, Crocuses, Cyclamens, Narcissus, Jonquils, and Scillas.

They can be grown in moss, cocoanut refuse, sand or good sandy loam.

Hyacinths.

These bulbs take precedence of all others, on account of the fragrance and beauty of their flowers, whose exquisite forms and colorings are unsurpassed by those of any other class; and they are the most popular of all Dutch Flowering Bulbs.

No window garden can be complete without several of these lovely bulbs, and their culture is extremely simple. For flowering at Christmas they should be planted in September—but if planted now, they will flower in February or March in great perfection.

In selecting bulbs choose those that are the largest, plump and without break in the skin. The dark bulbs bear dark colored flowers, red or purple; and the light colored those that are white, yellow, bluish or porcelain blue. To grow them in moss, wrap it in a conical form about the bulb, bringing it six or eight inches below the base of it, for the roots will run that far. Do not cover the whole top of it; dip the moss in water, and weave it around with copper or iron wire, hanging it with the same or with bright colored ribbons which should not be attached until the bulbs have good roots, and are ready to bear light and warmth. Then place the balls of moss on a plate and put it in a dark, cool cellar or closet, to allow the roots to form. This is very essential, unless the roots form well before the green sheath of leaves starts, the flowers cannot be as fine. They are all prepared, for a bulb is but the store house of leaves and flowers and its roots must start in darkness and moisture. Leave them for six weeks, looking at them every ten days to see if the moss is dry, for without dampness the roots cannot grow.

Bring them to light and warmth by degrees, first hanging them at a northeastern window in a cool chamber, and changing the location in a week or more until the flower stalk is well formed, when they can have all the warmth and sun you can give.

Hyacinths grow in glass dishes filled with moss or cocoanut fibre prepared for the purpose, require similar treatment. They must stay in utter darkness

and cool moist atmosphere for six weeks, and neither moss nor fibre must be allowed to become dry.

Any common soup plate or China bowl, or even a tin dish will grow Hyacinths well, and when the bright flowers appear it can be lowered by a piece of ribbon or tape crossed underneath the bowl or dish, into a handsome casing.

They can be planted in wet sand in bowls or soup plates and covered with moss. They are very lovely when arranged with the pretty little blue Scilla Siberica, and miniature Hyacinths mixed with them. Place one in the centre and the Scillas about it, then the Hyacinths close around them, and miniature Hyacinths or Crocuses, white and versicolor, edging the whole dish. Of course they must be kept dark for six weeks; for this is required for all Dutch Flowering Bulbs.

For pot culture, take a six inch pot that will hold three bulbs, and fill it with three parts sand to one part leaf mould, wet it thoroughly, press in the bulbs leaving the upper part or crown uncovered; do not let them become dry after once being wet, for that is the ruin of all bulbs, yet the water must not settle at the roots, but good drainage of bits of charcoal should be provided in the bottom of the pots. Keep as prescribed for moss and sand and gradually accustom to light and heat.

Thus treated, they will come forward most rapidly and will blossom much sooner than them that are kept in the dark, only three or four weeks. The single sorts are the most effective for house culture, and the earliest varieties, those that will force the quickest, are the best to select.

The most desirable for window gardens are *Czar Nicholas*, pure rose color, bells and flower spike very large. *Amphion*, deep red, white centre, splendid truss of flowers. *La Dame du Lac*, rose pink, large compact flowers. *Bleu Mourant*, lovely deep blue, close clusters. *Charles Dickens*, porcelain blue, splendid flowers. *Prince Albert*, dark purple, very fine. *Uncle Tom*, violet black, very elegant. *Grand Vainquer*, pure white, large and beautiful. *La Candeur*, snowy white, fine close truss. *Grande Blanche*, *Imperiale*, bluish white, large bulbs. *Victoria Regina*, pearly white, fine flower. *Voltaire*, bluish white, very large truss.

Miniature Hyacinths.

These are the loveliest for dish culture. They require the same treatment as the larger flowered, and form very pretty groups. Among them are:—*Ami du Coeur*, *Deibitsche Sabaskanski*, which are rose colored; *Alice Maud*, a bright carmine, *George*, delicate porcelain; *Jessie*, pure white; *Lizzie*, dark red; *Nellie*, pure white; and *Uncle Sam*, deep blue.

There are no prettier flowers for children to cultivate than these miniature varieties.

Tulips.

The tulip ranks second in importance as a bulb

for window gardening. The *Duc Van Thols*, single and double varieties, are the species usually selected.

Of the single *Duc Van Thols* there are nine or ten various shades in red, white, yellow, rose, vermilion and variegated. They are not over six inches in height, and with their brilliant colors form most charming additions to every window garden. They are most effective when grown in groups, six to twelve in one pot, but they accommodate themselves to every situation, and blend admirably with a stand of flowers.

Among the double varieties are *Couronne des Roses*, a bright carmine; *Purple Crown*, deep purplish crimson; *Tournesol*, deep red, margined with yellow; *Imperator Rubrorum*, richest crimson; *Mariage de ma Fille*, white, striped with red; *Duke of York*, crimson, edged with white.

The culture of the Tulip is the same as that of the Hyacinth, only the bulbs being so much smaller, the roots will develop sooner, and four weeks of darkness will be sufficient for them. By cautiously cutting through the concentric coats of a Tulip root in autumn, longitudinally from the top to the base, and taking them off successively, the whole flower is disclosed with its petals, stamens and pistils. The flowers exist in other bulbs in the same manner, but the individual flowers of the tulip being larger, they are more easily dissected, and more conspicuous to the naked eye.

The Crocus.

There are many varieties which bear much larger flowers than the older kind. The Dutch florists have manipulated their bulbs with great success, and made the Crocus quite an effective flower.

For house culture, the largest varieties should be selected, and they can be planted in china saucers, preserve dishes, or any small plates, only taking care to keep the moss, fibre, sand or soil wet, never allowing it to dry off. They can be had in various colors of purple, blue, white, yellow, and striped either in white and blue, or yellow and brown, like the *Cloth of Gold*.

Among the newer varieties are :—

Albion, fine-striped; *Cloth of Silver*, pure white; *David Rizzio*, splendid dark purple; *Ida Pfeiffer*, light striped; *Lilaceus Supebras*, light blue, finely shaded; *Lord Byron*, perfect blue; *Madame Mina* fine striped; *Maria D'Ecosse*, pure white; *Prince Albert*, purple lilac; *Sir Walter Scott*, beautiful penciled lilac; *Sulphureus*, sulphur yellow.

Narcissus.

All the varieties of the *Polyanthus Narcissus* are suitable for house culture. The perfume is that of the Jonquil, and its flower resembles the *Polyanthus*. Mingled with hyacinths, and *Duc Van Thol* tulips they add much to a window garden. The *Double Roman*, if planted in September will be in flower at Christmas. The bulbs are so large that it takes a 5 or 6 inch pot for a single bulb—but three can be grown in eight inch pots.

The culture is the same as the hyacinth in every

respect. The tip of the bulb should be left uncovered. The handsomest varieties are :—

Belle Princesse, yellow; *Bazelman Major*, white, yellow cup; *Dubius*, white, very delicate; *Grand Primo*, white, citron colored cup; *Grand Soleil d'Or*, fine yellow, orange cup; *Queen of the Netherlands*, white, deep yellow cup; *Bullocodium*, (Hoop Petticoat Narcissus,) is very fine for pot culture, it is called so from the form of its flower, and is a very beautiful species.

Cyclamen.

Cyclamen are not really bulbs, but are botanically described as *corns*, the fleshy roots being solid, as in a potato, and not in layers as in a hyacinth. The root should never be inserted more than one half its depth in the soil, and they can be placed in the window at once, as they do not require to be kept in the dark to make them push their roots. They should be planted singly in pots—a 5 inch will do if the bulb is small—not over an inch or so in diameter, but if of good size, a 7 inch is needed. They bloom best in a dark, peaty soil mixed with a little sand, or leaf mould and sand. Give water moderately when the leaves are starting, but when the flowers appear, it will need a more plentiful supply. After flowering, withdraw the pots from the window, and give little sun or water until another Autumn. There are three species, *C. Persicum*, which vary in color from light rose to rich crimson, and a pure white with a purple throat, *Autumnale flore alba* and *Dubra*; they flower in the Autumn. The *Coum* species are very ornamental with small bright rosy crimson and snow white flowers, blotched with deeper crimson at the base.

Jonquils.

There are three varieties, the double and single sweet scented, and the large Campenell or Bell-flowered. They can be cultivated like other bulbs, in clusters and mixed groups. Three roots can be planted in a five inch pot; five or six in a seven or eight inch pot, not covering the tip of the bulb, and they are very lovely in form, hue and fragrance.

Scilla.

Scillas are sparkling gems for window gardens, and are quite popular and fashionable at present, for there is a fashion in plants as well as in dress. And what is *a la mode* is of course, beautiful! The flowers are borne in spikes of six to twelve, the individual blossoms being gracefully pendant and bell-shaped. They are very dwarf in habit, averaging not over six inches and the prevailing colors are blue and white. *S. Hyacinthoides*, *S. Peruviana*, *S. Siberica*, *S. Amena*, *S. Campanulata*, are the handsomest for in-door blooming.

Glasses for Hyacinth Growing.

In selecting hyacinth glasses be sure to choose the deep blue shades, as this color is best adapted to forcing the roots; fill up within an inch of the bulb, but do not let it touch the water. And soon the tiny roots will strike downwards towards it.

Keep bits of charcoal in the water to purify it, and it need not be changed. To encourage the flowering of bulbous roots,—take three ounces of nitre, one ounce of salt, half an ounce of white potash, half an ounce of white sugar; dissolve them in one pint of soft water, and put ten drops of it to each hyacinth glass twice a month.

We beg our readers to cultivate some or all of the Dutch Flowering Bulbs because they are so bright beautiful, and fragrant. No other flowers possess so many charms! Plant Hyacinths and say with the poet—

“And the Hyacinth purple and white and blue,
Which flung from its buds a sweet peal anew
Of music so delicate, soft and intense,
It was felt like an odor within the sense.” S. O. J.

DOMESTIC RECEIPTS.

BOILED INDIAN PUDDING.—Two cupfuls of sour milk, two spoonfuls of molasses, one teaspoonful of soda, one of salt, half a cupful of sifted flour, mixed with enough corn-meal to make a batter not very stiff; half a cupful of chopped suet, from which all the stringy substance has been removed; a cup and a half of chopped sweet apples, or huckleberries, dried or fresh, as you have on hand. Boil from two and a half to three hours.

GRAHAM FLOUR MUFFINS.—One pint of sour milk, a small teaspoonful of soda, one tablespoonful of sugar, and Graham flour sufficient to make a thick batter. Bake in rings, or drop the batter in spoonfuls on a flat tin. Add a little salt before baking.

QUINCE PRESERVES.—The orange quince is the best to preserve. Peel and core the quinces; weigh a pound of crushed sugar to a pound of quinces; put the peel and cores into a kettle with just water enough to cover them. Let them simmer about two hours; then strain the liquor and put it back into the

kettle, and put in it as many quinces as the liquor will cover; boil them until they are tender, take them out, and put them on a flat dish to cool; put in more until all are boiled; then put the sugar in, and let it boil until it becomes a syrup; then put in as many quinces as the syrup will cover; let them boil about thirty minutes, keeping them covered, so that they may retain their light color; put them on a flat dish to cool; and then more until they are all boiled; then boil the syrup until all the water is boiled out of it. When the quinces are all cool, put them into jars, and strain the syrup while it is hot through a very fine sieve on the quinces.

MAKING SAUER-KRAUT.—The best we ate ever we made ourselves for many years, and for a considerable time with our own hands, and always from Savoy cabbage. It was manufactured in this wise: In the first place let your “stand,” holding from a half barrel to a barrel, be thoroughly scalded out; the cutter, the tub and the stamper also well-scalded. Take off all the outer leaves of the cabbages, halve them, remove the heart and proceed with the cutting. Lay some clean leaves at the bottom of the stand, sprinkle with a handful of salt, fill in half a bushel of cut cabbage, stamp gently until the juice just makes its appearance, then add another handful of salt, and so on until the stand is full. Cover over with cabbage leaves, place on top a clean board fitting the space pretty well, and on top of that a stone weighing twelve or fifteen pounds. Stand away in a cool place, and when hard freezing comes on remove to the cellar. It will be ready for use in from four to six weeks. The cabbage should be cut tolerably coarse. The Savoy variety makes the best article, but it is only half as productive as the Drumhead and Flat Dutch.—*Germantown Telegraph.*

CLOSE OF SECOND SERIES.

With this number we close the second series of the MONTHLY NEW ENGLAND FARMER, and also suspend its further publication. We do this in order to give more attention to our Weekly edition, finding it difficult to issue both editions without allowing one to interfere with the proper conduct of the other.

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